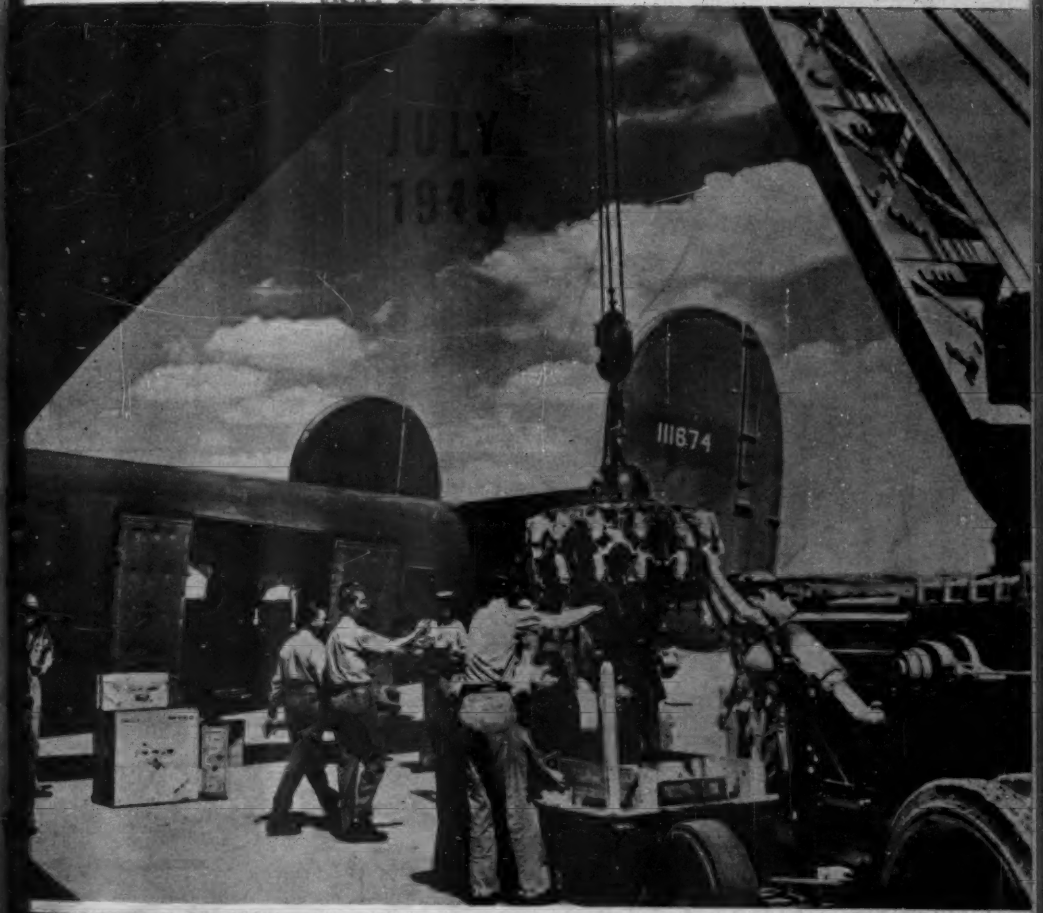
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July 1943

VOL. 3 No. 1

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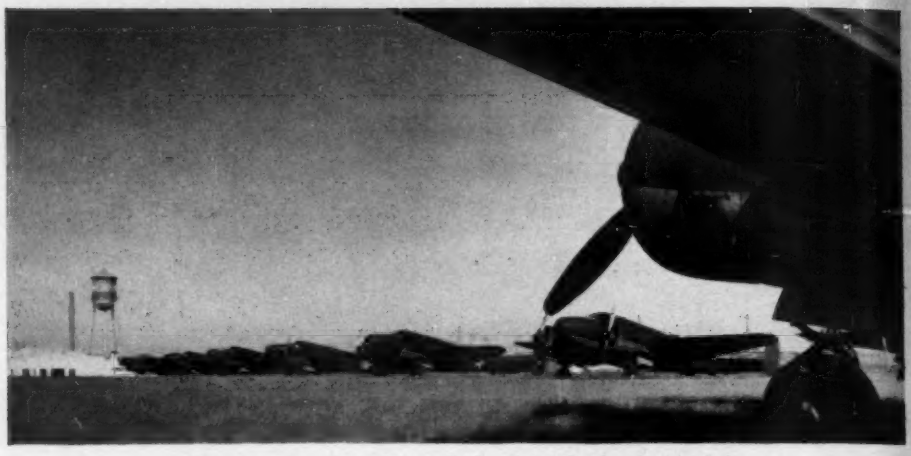
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AIR TRANSPORTATION'S INTERNATIONAL TABLES
do not appear in this issue, but will reappear in August, completely revised and covering the latest new airlines and their schedules.

AIR TRANSPORTATION'S COVER
The Army's Air Cargo: Shipment of aircraft motors is loaded into a Consolidated Liberator Express. Photo from Office of War Information.

Sch. of Bus. - Pur.



Almost two years ago, these and other C-45A Beechcrafts joined the C-45s then used by ranking Army officers on National Defense missions

Beechcrafts at work

No. 5 OF A SERIES

The Beechcraft C-45 personnel transports were among the first twin-engine Beechcrafts to enter the service of the Army Air Forces, early in 1940. Equipped and appointed much like the commercial airliners and executive transports then built by Beech, and almost identical with them in design, their purpose was to provide swift, safe transportation for command personnel between centers of defense activity. A later version, the C-45A, carried camouflage warpaint and special equipment which still further broadened its utility. • The C-45 and C-45A Beechcrafts are now making themselves generally useful, both in the United States and in foreign theatres of operation. The high cruising speed, low landing speed, high inherent stability, sturdiness, and low fuel consumption demonstrated by their civilian prototypes are valuable qualities in the types of service now rendered by these Beechcrafts. They do their full share, as units of the world's best-equipped air forces.

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AIR CARGO *Tomorrow*

AS THE GOVERNMENT SEES IT

The Official OWI Study—*Continued from June Issue*

In Air Transportation's *June issue, there appeared the major portion of the Office of War Information's fact-packed report on Air Transport's present and future. Below and on the pages that follow, the remainder of the report, describing the work of the Civil Aeronautics Board and the Civil Aeronautics Administration, the great recent progress on airways and airports, together with descriptions of numerous additional transport aircraft, with photographs. On page 15, a summary of today's and tomorrow's cargo planes, as described in both instalments of the report.*

The CAB and the CAA

Federal responsibility for civilian flying is divided between the Civil Aeronautics Board and the Civil Aeronautics Administration, which together form the Civil Aeronautics Authority.

The Civil Aeronautics Board (CAB) is an independent quasi-judicial body of five members appointed by the President for six-year terms, serving under a Chairman and Vice Chairman. The Board is the Federal agency charged with the economic and safety regulation of all United States civil aviation; it lays down all major policies concerning the development of civilian flying; and it grants certificates of public convenience and necessity to the air lines, which authorize them to operate over certain routes. The Board establishes the rate of pay for mail carried by the air lines, exercises control over passenger fares, promulgates the Civil Air Regulations and sets operational standards for American civil airplanes and pilots. Its Safety Bureau investigates all civil aircraft accidents for the purpose of ascertaining the probable causes and preventing their recurrence by appropriate action and regulation.

The Civil Aeronautics Administration (CAA), on the other hand, is not a policy-making, but an operating agency, with four main divisions: Federal Airways, Airports, Safety Regulation (enforcing CAB standards), and the War Training Service. It tests, and issues certificates to all civil airmen—not only pilots, but mechanics, radio operators, traffic controllers, meteorologists and other aviation specialists. It checks the designs of all planes before they are put into commercial use, makes flight tests of representative models, patrols the airways and acts as a consultant in the development of an adequate nation-wide system of airports. In general, the CAA is authorized "to encourage and foster the development of civil aeronautics and commerce in the United States and abroad."

Neither the CAA nor the CAB has authority over military planes or over military fliers except when they are using the Federal Airways or other CAA air facilities.

Airways, Navigation Facilities

By now there are probably comparatively few people who believe that air-line pilots flying passengers and cargo on schedule simply climb into their planes, take off as they wish to, follow any route they choose, and land at their destination by simply coming down when they get there. Actually, of course, before taking off, the air-line transport pilot checks weather data and files a flight plan in which proposed route, altitude, and speed are specified and which is cleared by the proper airways traffic controls. In peacetime such procedure was not necessary for the nonscheduled commercial operator or the private flyer, so long as kept off the Federal airways. But these operations are now under severe restrictions dictated by reasons of military security.

Today, practically every flight by a transport plane is as controlled as the run of a railroad train. Rights-of-way—the airways—are marked by radio beams and visual aids; "Keep to the right" is the rule of the airway as of the road; there is two-way radio communication with airports and control centers along the airways; at any time the pilot can "ask the weather" from any radio station along the airway. (Today weather information is supplied in code, for reasons of military secrecy.) Radio range markers, operating by remote control and serving the airports as well as the airways, are constantly sending out the directional beams by which the pilot keeps himself on his course. A pilot may never see the ground from the time of his take-off at point of departure until he lets down through the clouds or fog over the airport at which he is to make his next landing; and yet, aided by the navigation facilities of the airways, he knows at all times exactly where he is.

A civil airway is the navigable air above a strip of the earth's surface between designated points—a strip set by CAA regulation at a width of 20 miles but during the present emergency cut to ten. The reason for this is the presence of Army, Navy, and other training fields located on or near airways. Hundreds of their short flights were constantly impinging upon small portions of the 20-mile-wide strips, and it was felt that to file and clear individual flight plans for each of these flights would place an excessive burden on each training operation. Instead, the airways were narrowed. The Services have agreed to keep all training planes outside of the airways, except when necessary for landing and take-off purposes and for cross-country flights, when the pilots will observe regular CAA procedures. This narrowing of the airways also provides more space for the establishment of military danger areas, such as gunnery ranges, without encroachment on the airways.

At present, all navigable air above 17,000 feet altitude is reserved for military traffic, and there are certain air space reservations, established by Presidential proclamation, that must be detoured—as, for example—over defense plants and Navy yards. The CAA designates airways by naming definite points, such as radio range stations, and extending the center line of the airway through the center of the points specified. Airways are direct routes (as the crow flies) except for bends to take in centers of population. All large population centers are located on one or more of the civil airways. For this reason, the airways often follow the routes of railroads and highways, though in the case of the Alcan Highway across Canada to Alaska, it is the highway that follows the previously established airway. One of the future developments visualized by



LOCKHEED *CONSTELLATION.* C-69. This plane has been designed to fill the need for a long-range passenger transport plane with a pressurized cabin, to fly in the sub-stratosphere at altitudes above 20,000 feet.

General specifications:
Four 2,200-hp. Wright R-3350 engines.
Standard gross weight, 73,500 lbs.
Fuel capacity, 4,800 gals.
Average cruising speed 255 miles at sea level, increasing to 300 at 19,000 ft.

The *Constellation*, with its heavy weight empty, is not intended for cargo carrying, but is the newest development for post-war commercial passenger use, at present being tested as a troop carrier. Increased speed and economy result from flying "above the weather"; and at full power, at altitudes up to 30,000 and 35,000 ft., the *Constellation* is designed to carry 55 passengers at a higher speed than is reached by a Jap *Zero* pursuit ship. It is designed to be able to operate at 25,000 feet with three of its engines, if necessary, and at 16,500 feet with only two. Cabin pressure is kept as at 8,000 ft.

The *Constellation* is the largest American land transport yet built, with a wing spread of 123 feet and length of 95. (DC-3 wing spread 95 feet, length 64½ feet.) The wing of the *Constellation* was developed as a result of tests on the wing of the Lockheed *Lightning* military pursuit ship—the distinctive plane with twin tail booms.



LOCKHEED 18—*LODESTAR.* Army designations C-56A, B, C, D; C-59; C-60, and C-60A; C-66. Navy R50-1, 2, 3, 4.

Another popular air lines plane, smaller and faster than the DC-3. Together with the well-known Hudson and Ventura bombers, it stems from an earlier Lockheed 14, previously used by the air lines and in extensive private flying, but now superseded by the Lodestar. First used in 1940, thirteen are still in commercial operation.

General specifications:
Two 1,200-hp. engines.
Standard gross weight, 18,500 lbs. but being used up to 21,500. Empty weight, 12,075 lbs.
Average cruising speed, 180 miles.
Normal fuel capacity, 644 gals.

Built to carry 14 passengers and 3 crew, the "Lodestar" is used by the armed services for personnel transport and small cargo-carrying jobs, but is being replaced by larger planes. It is used transoceanically only on the short-hop, island stepping-stone routes.

CAA is the bypassing of metropolitan centers, so that through air traffic will be able to avoid congestion over airports.

The civil airways of the United States now total over 35,000 miles, an increase of more than 700 per cent since 1927 and almost 100 per cent since 1932. A number of new airways have been established since the war primarily to meet Army and Navy requirements, both within the United States and leading to and from many of our insular possessions and bases.

Along the Federal Airways system within the continental United States the CAA is today operating 311 lighted intermediate (emergency landing) fields, 142 flashing beacons, and 2,098 rotating beacons. At the request of the armed forces, instrument landing systems—for use in fog and other bad weather—are being installed in more than 100 fields throughout the country. The first fully developed instrument landing system was put into operation in 1940 at Indianapolis, where it was developed at the CAA Experimental Station.

For the benefit of all airmen, the CAA maintains and operates 408 intermediate-frequency radio range and marker stations, 197 ultra-high frequency radio fan markers, and 72 ultra-high frequency radio range stations (which are expected to be increased to 143 during 1943). Also in the airways system are 446 weather-reporting stations, joined by a 54,000-mile teletype circuit for quick reporting of meteorological conditions from coast to coast. Traffic from point to point along the airways is directed from 23 control centers, located at major airports strategically chosen so as to cover the entire U. S. The control centers use a 10,400-mile teletype circuit and a 35,745-mile interphone circuit to check and clear movements of swiftly traveling aircraft along the airways. Lastly, at 74 designated fields, which include all principal air terminals in the country, the CAA operates airport control towers. This number is being increased, at the request of the military, to 120 or more this year.



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Pan American World Airways System



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Wings over the WORLD

PAN AMERICAN WORLD AIRWAYS

American aviation has come a long way from the first night transcontinental mail flight in 1921, made without benefit of airway aids, the pilots being guided along part of the route by bonfires set by obliging farmers.

In 1942 there were 6 million controlled —"flight plan"—aircraft movements along the airways, and for 1943 the estimate is 13 to 14 million, 95 per cent of them military or semi-military. This is a contrast from 1938, when approximately 300,000 movements of aircraft were handled by the CAA traffic control centers. (By 1950, CAA expects 60,000,000 aircraft movements over the airways.) With so many planes in the air, it is obvious that definite, pre-determined flight paths and procedures are vital to safety and efficiency.

Planes flying the airways report their location at official reporting points—over radio stations along the airways and over each point marking the intersection of two or more airways. These reporting points are never more than 100 miles apart. Flight progress boards are maintained at the control centers, showing the location of all planes flying on schedule in the area. According to Civil Air Regulations, eastbound and northbound planes maintain odd thousand-foot levels in the air, and westbound and southbound planes even thousand-foot levels.

A plane arriving over an airport at which it wishes to land, follows instructions sent out by radio from the airport control tower which tell the pilot when he may begin to decrease his altitude. Sometimes his plane—along with others arriving over the airport at the same time—is obliged to keep circling in the air in a "stack" at designated altitudes, for extended periods, until gradually the lower altitudes and finally the landing area become free of traffic and he is allowed to come in.

The most striking example of development of American air transportation due to the war is the Alaskan system, which since 1941 has been vastly improved and extended until today Alaska has as fine



BOEING 247 SERIES. Begun in 1933, all older models of this plane were converted to the type of the 247-D, begun in 1934. This was the first of the modern, low-wing, all-metal transport airplanes. Designated by the Army as C-73, it is used in the ATC's Transition Transport Training Program. Two engines. Standard gross weight, 14,000 lbs. 273 gals. normal fuel capacity. Average cruising speed, 165 miles.

a system of airways and airports as any section of the United States. The Civil Aeronautics Board in December of 1942 granted operating certificates to 21 Alaskan air carriers, formally authorizing the existing pattern of air service and for the first time bringing these operations within the economic provisions of the Civil Aeronautics Act. The Board authorized charter trips by any of the 21 certified carriers to any point in Alaska, thus providing air service which reaches into every section of Alaska. The Canadian system of airways across the border is closely integrated and coordinated with the United States and the Alaskan system, so that the three virtually constitute a single continental system north of the Rio Grande, the only one of its kind and the largest and most efficient in the world. It is the only airways system in the world set up to handle properly mass traffic with maximum safety, and it presents a contrast to the pre-war European airways systems, where types of control were not uniform but varied from country to country.

Canada-Alaska Airways

Flights ranging beyond the American-Canadian-Alaskan network of airways must, of course, be accomplished with considerably less accurate guidance, although present-day aids in transoceanic flying—including the use of improved compasses and direction finders in the airplane, capable of picking up radio signals over long distances—are extensive indeed as compared with facilities existing even as recently as the outbreak of the war. Even today, however, transoceanic flyers frequently resort to celestial navigation for their guidance, a combination of two or more means of navigation being desirable from the standpoint of safety.

The Federal Airways Service is now operating six intercontinental superradio stations capable of communicating with aircraft at any point on the globe. These stations are at New York, New Orleans, San Francisco, Seattle, Honolulu, and Anchorage and have been of inestimable value to the armed forces, placing the United States several years ahead of any other country in the world in the development of intercontinental airways. They are used solely for the war effort, to provide weather and navigation information. In their combined range, they blanket the world, providing communication between this country and a plane in flight anywhere on the globe. They are operated by CAA, with the Army providing security in the coding and decoding of messages. CAA radio engineers are now cooperating with the armed forces in establishing a vast network of airway communications systems in the North Atlantic area, in South America, Africa, Europe, Asia, and Australia. Due to the rapid development of facilities everywhere, the world routes flown by our aircraft are at present in a constant state of change.

The immediate post-war problem of the airways, as seen by CAA, will be to rebuild the entire domestic airways system by substituting ultra-high frequency for the old standard intermediate frequencies ranging between 200 and 400 kc. Ultra-high frequency will eliminate static and provide a visual as well as an aural course, if not omnidirectional courses. Among the innovations will be: two voice channels on every radio range station, the employment of ultra-high frequency for traffic control, ultra-high frequency localizers for all important airports, with glide path, and ultra-high frequency markers to permit the pilot to land under instrument conditions.

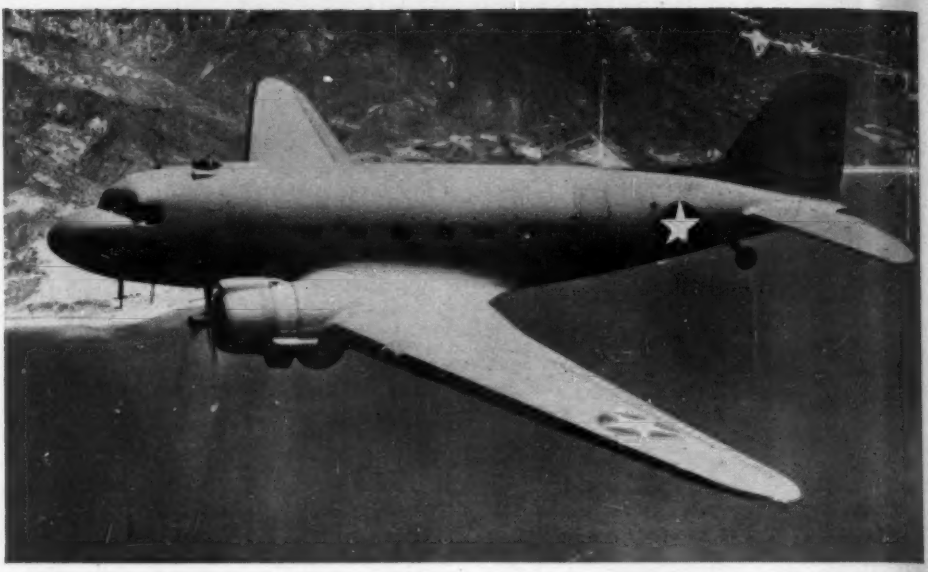
New electronic control devices, including radar, will also play a large part in post-war aviation.

Airports

Exclusive of certain military airdromes, there will be about 865 major airports in the United States by the end of 1943, all of them with paved runways of 3,500 feet or more, capable of handling the largest craft. Less than 100 such fields existed in 1940. In addition to these, there are well over 2,000 lesser fields.

With few exceptions, all major civilian airports belong to municipalities and other political subdivisions, which operate the fields as public facilities except insofar as their use is restricted at the present time by Army and Navy requirements, which are provided for by contract.

Most airports are constructed with the aid of Federal funds, under specifications drawn up by the CAA. For the fiscal years 1941-43 Congress has appropriated $399,333,050 for the National Defense Airport Development Program. Such development



DOUGLAS DC–3—"The workhorse of the air lines." No models delivered commercially after January 1943; now being turned out in large quantities in military models only, with variations as follows:

Army C-47, "Skytrain," with large door for loading of cargo, metal floor, and reinforced landing gear.

Army C-53, "Skytrooper," with wood floor, benches for troops, and tow cleat on tail for glider towing.

Navy designations of the same plane are R4D-1, 3, 4, and 5, according to details in structure.

General specifications:

Two 1,200-hp. engines.

Standard gross weight for commercial operations 25,200 lbs., but the C-47 is frequently flown at 29,000 lbs. Empty, 17,000 to 18,000 lbs. according to equipment.

Normal fuel capacity, 822 gals.

Average cruising speed, 170-180 miles.

Average cargo load, 4,500 to 5,000 lbs. on 1,000-mile flight.

This plane has a normal limiting range, without refueling, of not over 1,500 miles. It is seldom used for round-trip transoceanic work, and is flown across the ocean chiefly when being delivered abroad or on island routes with minimum nonstop distances. However, the normal fuel capacity can be almost doubled by the installation of additional tanks in the fuselage for overwater long-range flights. Thus heavily loaded chiefly with fuel, the plane can have a range of 3,000 miles, and has frequently flown from Hamilton Field, California, to Hickam Field, Honolulu—in some instances at an initial gross weight of 31,000 lbs.

First used as a passenger plane on the air lines in 1936, to carry from 21 to 24 passengers and a crew of three, this plane rapidly became the most popular American transport in the air. Passenger comfort, good-sized cargo and mail space, price, size, speed, and finally reliability, due to extensive development and use have all been factors in its widespread popularity. This plane formed the bulk of the planes taken over from the air lines, and 203 are still operating commercially. The DC-3 has flown more air line passenger-miles than any other model in the United States. Some in existence have accumulated up to 22,000 flying hours and many are at present being used 12 hours (not, of course, continuous) out of the 24.

For military personnel and cargo transport it is being used in greater numbers than any

➡ *(Continued on Page 14)*

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is limited to sites within the United States and its possessions, designated by the Army and the Navy as essential to national defense and the successful prosecution of the war.

Within the past few years, numerous new airports for the use of military transport and combat planes have, of course, been constructed with American and Allied funds throughout the United Nations. After the war many of these fields will be available for civilian air transport use.

The CAA's Civilian Pilot Training Program, inaugurated late in 1938, which through instruction in universities and at flying fields enabled young Americans to secure civilian pilot licenses of various grades, is now known as the CAA War Training Service and forms a prelude to regular Army and Navy combat flight training. It has absorbed many civilian pilots as instructors. Many of the pilots flying both air-line and military transport planes today are graduates of the Civilian Pilot Training Program.

There are four main categories of civilian pilot certificates: student, private, commercial, and air-line transport. A commercial pilot, who is licensed to carry freight and passengers on a chartered but only on a nonscheduled basis, must be 18, a citizen, literate, must measure up to certain minimum physical requirements, must pass a written examination on the theory and practice of flight and maintenance of craft and engine, and must have logged at least 200 hours of solo flight. An *air-line* transport pilot must be at least 23, a citizen and a high school graduate or its equivalent, as judged by the CAA, in general experience and aeronautical experience, knowledge, and skill. He must pass a written examination in all phases of the practice and theory of flight, navigation, meteorology, and operation of the Federal Airways. He must have a commercial pilot's rating and have logged at least 1,200 hours of solo flight within the past eight years—at least 500 of them on cross-country flights. He must pass a flight test on take-offs, turns, landings, and certain routine maneuvers, as well as in tuning and use of radio for communication with the ground and following the directional beams of radio range stations.

As contrasted with less than 25,000 in 1938, there were 100,787 licensed pilots in the country at the end of 1941, the last date for which figures are available. Of these, 15,142 possessed commercial certificates and 1,587 air-line transport certificates.

Today, the number of pilots in the United States is a military secret. The Army and Navy have both absorbed many of the commercial and air-line transport pilots and, in addition, train their own pilots for transport and other flying without awarding certificates. After the war, the number of hours put in by these military pilots on transport craft in the Army and Navy will be accepted by CAA as qualification for obtaining either commercial or air-line transport certificate. In all branches of the services, there is a serious deficiency of men with experience as measured by hours of flying time.

Civil air regulations permit air-lines pilots to fly a maximum of 100 hours a month, 1,200 hours a year, for the duration of the war—an increase of 200 hours a year over the pre-war limitation. The Air Lines Pilots' Association is an affiliate of the American Federation of Labor, as are the Flight Radio Officers' Association and the Air Line Flight Engineers' Association.

DOUGLAS DC–3—*(Continued from Page 12)*

other model. It was used in the evacuation of Burma and Hongkong, carrying as many as 74 light passengers at a time. (Troop-carrying capacity of the C-53 is normally 28, plus crew of 4.) It flew American and British paratroops the 1,500 miles from England to North Africa. Generalissimo Chiang Kai-shek is supposed to have said, "Give me a hundred DC-3's and the Japanese can have the Burma Road." The C-47 will hold two jeeps, or three airplane engines in boxes.

Now this plane is being used for comparatively short-range operations—for carrying paratroops and air-borne infantry, for glider towing, command use, and shorter and front-line cargo deliveries. For more extensive operations it is rapidly being replaced by the longer-range and larger C-46, which at 1,500-mile range will carry almost twice as much cargo.

Other Transport Craft Listed by OWI

SIKORSKY FLYING BOATS—*CLIPPERS.* S-42B, 4-engine; and S-43 (Amphibian; Navy JRS-1), 2-engine. Both these planes, as well as the Consolidated *Catalina* flying boat mentioned below, are being flown by an airline under contract to the Rubber Development Corporation, a subsidiary of the RFC operating under directive of the Office of the Rubber Director, to take personnel and critical materials to the Amazon Valley and to bring out personnel, rubber, and other materials. The S-43 is also being flown in Hawaii.

MARTIN 130 FLYING BOAT—*CHINA CLIPPER* type. Three of these planes were built in 1935 and pioneered in scheduled transpacific operations. One is still flying between Honolulu and San Francisco. Four-engine. Standard gross weight, 52,000 lbs. 4,077 gals. normal fuel capacity. Average cruising speed, 130 statute miles.

CONSOLIDATED *CATALINA* FLYING BOAT. Another, smaller, Navy patrol bomber and glider tower, PBY-5, in amphibian model, PBY-5A. A number of both models have been modified for cargo-carrying duties. Like the Sikorsky Flying Boats, the *Catalina* is being used for Rubber Development Corp. in the Amazon Valley. Two 1,200-hp. engines. Empty weight, 17,500 lbs.; cargo capacity up to 15,000 lbs.; 3,000-mile range in military operations.

LOCKHEED 10 SERIES. Several versions of this plane, beginning in 1934, led up to the Lockheed 10-E, built in 1935, with space for 10 passengers and 2 crew. Army C-36, but not in extensive use. Two engines. 10,500 lbs. standard gross weight. 250 gals. normal fuel capacity. Average cruising speed, 150 miles.

DOUGLAS DC–2. The forerunner of the DC-3, first built in 1934 and now used here and there by the ATC, under designations C-32A, C-33, and C-34 for training purposes. 19,000 lbs. standard gross weight. 510 gals. normal fuel capacity.

NOTE: In listing today's and tomorrow's transport planes, OWI divides them into three classes:

1) The Chief Airlines Planes, including the redoubtable Douglas DC-3 (see page 12), the Lockheed 18 *Lodestar* (see page 8), and the Boeing 314 *Clipper*, the Boeing 307 *Stratoliner* and the Vought-Sikorsky *Flying Ace*, all three illustrated in the June AIR TRANSPORTATION.

2) Older Model Airlines Planes, including all those listed above on this page except the *Catalina*, plus the Boeing 247 (see page 10).

3) Bombers, including the Consolidated *Liberator Express*, Consolidated *Coronado*, Martin *Mariner* (all illustrated in the June issue) and the Consolidated *Catalina*, listed above.

4) Newer Planes, Designed for Commercial Passenger Use, But Diverted to Military Use: Douglas DC-4 *Skymaster* and Curtiss *Commando*, both illustrated in June.

5) Planes Under Development. This group includes three already being flight-tested (Curtiss-Wright *Caravan* and Martin *Mars*, both shown in June, and Lockheed *Constellation*, shown on page 7). It also includes three not yet at flight-test stage, the Kaiser-Hughes HK-1 (shown in June) and these two:

WACO C–62. All wood. Two engines. 33,500 lbs. gross weight.

FAIRCHILD C–82. A part-metal, 50,000-lb. cargo plane with a rear door that can be lowered as a ramp and with an interior hoist.

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World's Longest Civilian Sky Cargo Line Is on Panagra's Route



By HAROLD J. ROIG
President, Pan American-Grace Airways
As Told to JOHN F. BUDD

UNQUESTIONABLY the science of aviation is growing faster in these war years than in any other period and I believe that today's enormous development of air transport marks a transition from the infancy of commercial aviation to the next stage of its expansion.

In meeting the demands of a commercial aviation system that was rapidly spreading in the Western Hemisphere and across the oceans, the American plane builders did a most remarkable job in the decade before the war. Think back, for example, to the passenger planes of 1930 and compare them with the superb liners of 1939 and 1940—and even finer, larger commercial ships were in the making when war began.

Cargo Promotion Lagged

These were all passenger ships, or really combination passenger and mail ships. Available cargo space was occupied by mail bags and the luggage of passengers, and as mail and passenger movement increased the room left for freight or express became constantly less and less. Therefore, generally speaking, operating companies except in regions where there was no other fast transportation were not bearing down hard on the promotion of air cargo business. They did not have the plane capacities to handle a large volume of that business if it were developed.

Any vehicle that carries passengers, however, can be adapted to carry commodities and everyone in the business can tell his own stories of the use of passenger ships in hauling of freight to places closed to other transport, or to save time. The use of airplanes in this way was more advanced, as we all know, in rugged or sparsely settled regions where other transportation was primitive or non-existent—and in areas like that the airplane after the war may very likely remain the premier transportation dispensing with the necessity of expensive railroad construction.

When war came we had not yet reached the point of developing special cargo ships for carrying freight and express, not only because the need for them was not yet urgent, but also because any standard large plane could be, and in several instances, had been, adapted to cargo-carrying. Panagra was one of the earliest to do this in order to handle certain special freighting jobs. Most of the great air cargo movement of today is being carried

in planes designed as passenger planes but adapted to cargo work.

Special Cargo Craft Coming

The phenomenal and extraordinary needs of the war, however, have thrown emphasis upon cargo-carrying planes, telescoping years of development and experience into months. Unquestionably this concentrated activity will have a marked effect upon commercial aviation after the war, especially upon the growth of cargo, or freight and express business. Not only straight cargo planes but combination passenger and cargo planes having enlarged and improved cargo facilities, will doubtless become standard equipment on the Panagra Route.

Our route serves eight South American countries as well as the Canal Zone; Panama, Colombia, Ecuador, Peru, Bolivia, Brazil, Chile and Argentina. Besides the international service connecting these countries, Panagra provides extensive local service in Ecuador, Peru, Bolivia and Argentina. Its lines include three transcontinental routes from points on the West Coast of South America to Buenos Aires and a fourth transcontinental from Lima to Corumbá, Brazil, and thence by Panair do Brasil to Rio de Janeiro. The operation and development of all these routes since the war has, of course, been related to wartime requirements and the maintenance of essential lines of communication to and within South America. Postwar traffic possibilities indicate a large air cargo movement in this area.

During these past five years we doubled our route mileage and increased by sevenfold the number of passengers carried. Not only did those years see great increase in mail and passenger movement but air express increased ten times. Air express and air cargo with us reached a point where during 1942 we inaugurated the first all-cargo freight service to be operated commercially by any airline holding a CAB certificate.



***ROIG IS WELCOMER:** Panagra's President Harold Roig (right) greets General Enrique Penaranda, President of Bolivia, on the latter's visit to Pan American Airways' Atlantic base at New York's LaGuardia Field. To the Bolivian President's left is Miss Martha Zalles, whose father, Jorge Zalles (extreme left) is vice president of W. R. Grace & Co. for Bolivia.*

While the discussion regarding the potentialities of air freight is going on, we are testing and developing those potentialities in the laboratory of experience by the actual operation of an all-freight service. These cargo operations were successfully conducted at first over an 1680-mile route between the Canal Zone and Lima, Peru, but last January were extended on southward and across the Andes to Buenos Aires, a total route of 5300 miles. We believe this may be the longest regular aerial all-freight service in the world in civilian use.

The series of early test flights, before regular service was established, proved the need of a new separate cargo service on this route, and confirmed our opinion that separate freight operations would relieve pressure and therefore benefit the regular daily passenger, mail and express services of the company, which are now primarily of war priority classifications.

Panagra installed this new service without receiving additional airplanes but by increasing the efficient operation of those it already had. At first two Douglas DC-2 transports were converted to freight craft capable of carrying about 1450 kilos, or 3300 lbs. In a very short time these craft on regular service cut into the backlogs of commercial express, chiefly items like machinery and tools, that had been awaiting transportation south on the regular passenger, mail and express planes. Northbound cargoes were to a great extent high-unit-cost-raw materials badly needed in U. S. war plants.

Panagra was able to set in motion this advanced phase of its service because of its long experience in freight operations which it has acquired over the past 14 years. On various occasions the company accepted and fulfilled contracts for transportation of tools, machinery and equipment and even of whole plants for quick and economical development of mining operations on the West Coast of South America, now proving essential in the defense effort of the hemisphere. The experience in this work proved invaluable in providing experience in aircraft conversion and in developing training techniques and handling procedures.

Manifests of the cargo flights show a flow to the south of a remarkable variety of manufactures, urgently needed now that surface shipping has been drastically curtailed. Each flight has had large quotas of machinery, spare parts, medicines and



QUININE BY AIR: 500 kilos of quinine sulphate, war-scarce in the U. S. since the Jap occupation of the Netherlands Indies, are shipped from quinine's first country of origin, Peru, as a symbolic gift from President Prado, of Peru, to President Roosevelt. Photo shows loading at Panagra's Limatambo airport.

drugs, medical equipment, films, printed matter, furs and clothing. Even items not directly connected with the military effort have their place in supplying South America's civilian needs in exchange for their furnishing of raw materials to our war industry, including hundreds of kilos of valuable metal concentrates from the mining centers of the Andean democracies.

The pressure of backlogs of express upon the regularly scheduled passenger liners as well as upon this exclusive cargo service foreshadow the possibilities of great growth along this route.

I think that the results of our operations show that we are already moving rapidly into the period when airplanes will be used extensively for air cargo in South America.

Now It's Helicopters By Nash; Automakers Get Big New Contract

The first successful helicopter in the U. S. —designed and built by the Sikorsky division of United Aircraft Corp. [*see* AIR TRANSPORTATION, *April, page 10*]—will be constructed in quantity for the Army by Nash-Kelvinator Corp. under license from United.

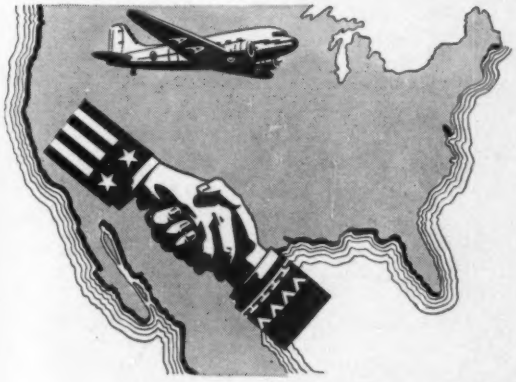
Helicopters for the Army are already being built at the Sikorsky factory at Bridgeport, Conn., but Nash-Kelvinator's job of the craft will mark the "first large scale production of helicopters in the world," Nash announced last month.

This makes the third product of United Aircraft to be built under license by Nash-Kelvinator. The concern is already in quantity production on 2,000 h.p. Pratt & Whitney Double Wasp aircraft engines and Hamilton Standard hydromatic propellers.

Pratt & Whitney has licensed Ford, Buick, Chevrolet, Jacobs and Continental as well as Nash-Kelvinator to build engines. Hamilton Standard has licensed Frigidaire and Remington-Rand along with Nash-Kelvinator to build propellers. Chance-Vought *Corsair* Navy fighters are being built by Goodyear and Brewster.

★ ★

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ROUTE OF THE FLAGSHIPS

★ ★



As close as the hands at quarter past three

HAVE you noticed it? The world is *shrinking* every day.

Before the outbreak of war, it took weeks and weeks for foreign traders to deliver financial documents overseas.

But today, exporters and importers can't wait for ships that may never come in. They are using cables and planes instead. That means transactions may now be completed in a matter of minutes and hours.

This bank, in its century and a half of service to foreign trade, has witnessed the amazing change from sailing ships to stratoliners.

To us, this transformation means more than an acceleration of the flow of goods that are now vitally needed to win the war. We see here a deeper significance — reducing travel time brings us that much closer to our neighbors in the world.

We are looking forward to the day when the whole world will be one neighborhood and world trade will bring all nations together as close as the hands on the clock at quarter past three.

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What You Can Do, Wherever You Live, To Hasten Air Cargo Benefits

Advice to New England Council May Well Aid All Other Regions

COMEBACK FOR NEW ENGLAND INDUSTRIES IS SEEN THROUGH POSTWAR AIR DEVELOPMENT. *Thus read a headline in a leading New England newspaper last month. The story under it told of the address on June 10, before the aggressive and famous New England Council, made by John F. Budd, publisher of* AIR TRANSPORTATION.

Because so much of what Publisher Budd told New England's air cargo planners applies with equal or similar emphasis to so many other parts of the country, the salient portions of his address are used as the basis of the article below. Readers are invited to comment and to ask the Editors for any help that can be given to them in pursuing their own local postwar planning in the air cargo field.

By JOHN F. BUDD
Publisher, AIR TRANSPORTATION

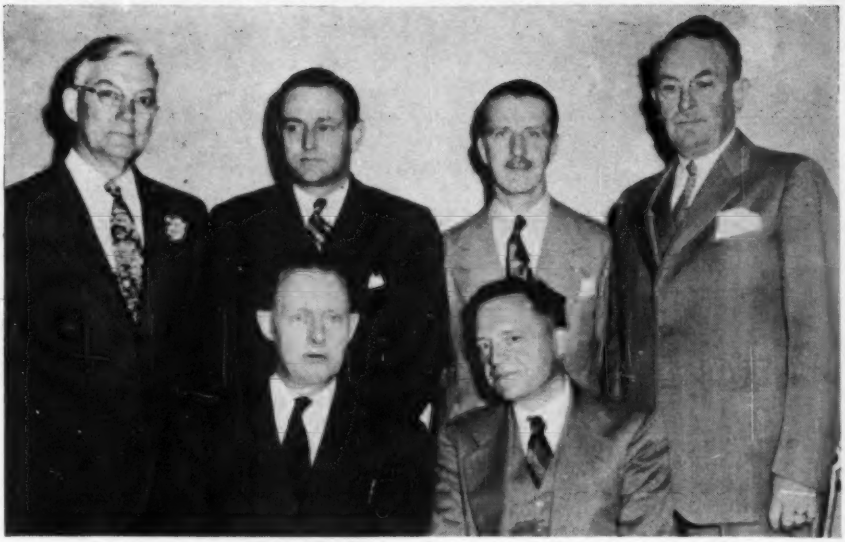
THE air cargo operations of the future must make their way, economically, against all competition, in the years that follow the war when military necessity no longer overrides the everyday dictates of cost figures. Obviously, there will be vast increases in the shipping done by air as costs decrease and as shippers discover new economies in faster forwarding of their merchandise.

But let's look at the facts. With all these years of slow but steady development, how far have we gone—up to right now?

The fact is—in spite of all you hear on the air and read in the newspapers—there is even today little or no *commercial* air cargo. Remember, I say *commercial*—not *military*—air cargo.

In fact we did not have any all-cargo air transportation schedules in the U. S. until less than a year ago when two of our largest domestic airlines began one scheduled daily flight from New York, United Airlines flying to Salt Lake City in 14 hours, and Eastern Air Lines flying to Miami in eight hours. It could hardly be said that these were true cargo planes as both utilized one Douglas DC-3 aircraft carrying cargo strapped within the cabin. I am told that both these flights average a pay-load of about two tons each trip.

It is obvious to anyone connected with air transportation that our present flight equipment is inadequate for air cargo operation. At the present time there are certain aircraft designs on the drafting tables, and one plywood cargo model, America's newest cargo plane—*Cessna Loadmaster*—in addition to others that



***NEW ENGLAND'S AIR FUTURE** was explored in detail in Boston last month by the New England Council, with the aid of (front row) Civil Aeronautics Administrator Charles I. Stanton and United Air Lines' Traffic Vice President Harold Crary, as well as (back row) William V. Brown, of the U. S. Railway Mail Service, Boston; Harvey F. Law, CAA's regional airports supervisor, New York; Air Transportation's Publisher John F. Budd, and J. Burleigh Cheney, chairman of the council's aviation committee, who arranged and presided over the June 10 meeting.*

have been announced this year is now being test-flown, which may shortly improve this situation. Our present standard airline equipment such as the Douglas DC-3 is capable of carrying slightly more than two tons of pay-load at an economic cruising speed of 160 miles an hour.

The critics of air cargo development, now and for the postwar future, insist on comparing the payload of the DC-3 with the cargo payloads possible in a railroad boxcar. I believe that the only fair comparison we can make between the air cargo carrier and the railroad boxcar or ocean freighter will come when aircraft are developed capable of carrying the same *weight load as the freight car. And that time is not far distant!*

Because of inadequately designed cargo aircraft, uneconomic operation, and the pioneer newness of real, large-scale air cargo today, our air shipment rates cost more than 70 cents a ton mile. However, we already have aircraft designs coming off production lines that will bring this ton-mile cost down to 12 or 15 cents and one manufacturer claims he can bring it down to 7 cents in the post-war future.

Latin America has an area some two and one-half times as large as the U. S., and untold resources for air commerce which are as yet undeveloped because of geographical reasons. From northern Mexico, 7,000 miles to Cape Horn at the southern tip, a mountain wall divides the eastern and western parts of the continent; and tropical jungles, swampy river areas, also provide further obstacles to proper development of land transportation. It is obvious therefore *why* air cargo developed in South America, and why such an airline as TACA which began in 1931 with one small airplane has grown in eight years to a company operating 50 airplanes and providing a transportation system of first importance to Central American republics. From 1937 through 1941 TACA transported 93,000,000 lbs. of express and freight. The TACA line is transporting everything including refrigerators, radios, barbed wire, lumber, dynamite, gasoline, locomotives, Diesel en-

gines, live cattle, all types of vegetables and foods, and mining machinery.

I have gone into detail in mentioning TACA's operations because, aside from its success and the geographical reasons that helped it grow, it introduced the principal of deferred freight *to the air cargo field at rates* one-half *or less than air express rates. The backlog of freight accumulated under this plan assisted the companies to carry plane load capacity on almost every schedule. Changes in air freight vary, in general for shipments moving via the first plane the rate is* 5 cents *to* 7 cents *a pound, while those moving by slower or "deferred freight" in the first plane having space available, the rate is only* 2½ cents *a pound! Overall, TACA freight revenue for all types of merchandise averages approximately only* 3 cents *per pound! If TACA can do this in Latin America, I am sure that Yankee ingenuity can do the same thing here in New England."*

Now in soundly analyzing the future, we must remember that all that has happened up to now in the carrying of commercial cargo by air is but a tiny driblet compared to today's job of flying war cargoes. As you know, the Army Air Transport Command alone is larger than all the air transport organizations, both civilian and military, which existed all over the world before the war. And that doesn't count the Navy's Air Transport Service, which is big in its own right.

Real Cargo Airplanes Still in the Future

Yet, as the *Office of War Information* pointed out in its lengthy and vital report just Monday of this week on the subject of air transportation, *"Not a single plane originally conceived solely to carry cargo is in service in the Western Hemisphere at the present time, although several are in the process of design and manufacture."*

What, you may be at the point of asking, has all this to do with the problems you are considering right here in New England? Isn't all this primarily an international operation — mainly trans-oceanic flying?

No, it isn't, by any means.

For one thing, the Army's cargo-flying activities are creating literally hundreds of new airports. Some of these are, of course, in New England, though how many they are, in total, and where they are is, very properly, a military secret. But let no one assume that all of these fields, both in this country and abroad, will be military fields forever. Many of them will become air cargo terminals of the future, beyond a doubt.

And don't believe for an instant—that the hundreds of tons of cargo that the Army is flying out of the U. S. every week—all starts from airports right on the coast. The fact is, the Army Air Transport Command does as much cargo-flying within the U. S. as outside of it, and more than half of all the material that is flown overseas is also flown from inland points of origin to the coast.

You, of New England, of course, take special pride in the fact that so important a part of the aircraft manufacturing industry is located in your states.

Home-Town Interests Must Be Paramount

Here at this meeting, however, you are not only considering how air transportation can benefit New England as a whole, but you are also thinking in terms of what it will do for your own home towns, wherever they may be—throughout the six states you represent.

When you make the question of air cargo's future that specific, you cannot think entirely in terms of the whole broad picture. You might, perhaps, if you were thinking strictly as New Yorkers or as Bostonians. But today you are facing the problem as citizens of Burlington or Manchester or Lewiston or Meriden or Pittsfield. You may be thrilled at the prospect of giant airliners sailing over the oceans from Boston, but you can't quite picture one of these giants making regular daily stops at your local airport.

But to those of you who come from smaller cities and towns, let me assure you that the really farsighted planners of air cargo's future have not forgotten you. The blueprint that all of them collectively are gradually creating includes

your town just as it includes Boston and Hartford and Providence, though perhaps in a slightly different way.

There are, in fact, three challenging methods of bringing air cargo home to the smaller towns that go beyond the conventional airplane, however big and modern, as most of us think of it.

One is the *air pickup system*. One is *gliders*. And the third, and possibly the most promising of all, is the helicopter which, I know all of you are proud to realize, is a New England product itself, the brain child of that great adopted New Englander, Igor Sikorsky.

Small Towns Will Be Getting Their Share, Too

I place a great deal of emphasis on all *three* of these things—helicopters, gliders, and air pickup—but let's not forget the airship. They are far from dead. Conceivably, they may one day provide an answer to the needs of cargo-by-air that will supplement the airplane for practical cargo-carrying economy, if not for speed. I firmly believe that through one or more of them—or a combination of them—will come the real spread of air cargo's benefits throughout the land. No longer will air service—especially mail and cargo service—be exclusively a privilege of 200-odd larger cities. No longer will a town be denied all the benefits of direct air service because it cannot raise millions for an airport big enough for the largest planes.

That, I think, is a point of vital significance to New England, where your industries are by no means concentrated entirely in your larger cities, but are highly decentralized into scores of smaller towns.

Of course, in any consideraton of air cargo, as I have already indicated, cost is going to be the one all-important factor. If the cost per ton-mile of carrying air cargo were to remain—at what the cost of air express is today, I am sure all of us would agree—that there would be comparatively little postwar expansion. Certainly the great future which all of us are talking about could not unfold.

But it goes without saying—that these costs will come down—and will come down drastically—when the war is over and we have larger and more efficient planes, many of them specifically designed for cargo-carrying. Remember, as I have said, today's cargo planes are a makeshift fleet from the standpoint of truly efficient design.

As Croil Hunter, president of the Northwest Airlines, and one of the industry's clearest thinkers on this subject, wrote last winter: "Business men are primarily concerned with distribution of goods of all kinds to the public—and in transportation, since it plays an important part in that distribution, not only because the cost of the transportation is reflected in the cost of the articles, but because new markets for certain types of merchandise are made possible by the kinds of transportation serving them."

To date we have had only a slight indication of the effect this may have on manufacturers, jobbers and retailers, as the cost of air express has been relatively high and the effect of large scale air transport has not been felt.

It certainly is conceivable that air cargo rates may be reduced from the present 80 cents to 90 cents a ton-mile to 15 cents or even 10 cents a ton-mile. With the vastly accelerated war development of larger, more efficient aircraft—the utilization of greatly expanded production facilities, and the enormous number of personnel trained during this war period, direct flying costs will be substantially lower. It is certain that as costs are reduced, traffic volume will be increased and thus make these changes possible.

I say—and I ask you to remember—that when you take a given shipment of goods and compare the actual freight or express charges by rail or ship and the actual express or cargo charges by air without taking anything else into consideration, you are making a false comparison. And any such comparision is, of course, hopelessly weighted against air shipping from the start, at least on the basis of today's costs.

What you have to consider, instead, is *total distribution cost*. By that I mean you have to consider what it would cost to distribute your product by air and what

(*Continued on Page 34*)

Give Other Powers A Chance in Postwar Air

Trippe, of Pan American, Makes History With Address to National Institute

Pan American's President Trippe won two more awards recently. One was the 1943 *Captain Robert Dollar Memorial Award "for his distinguished contribution to the advancement of American foreign trade." The other was the medal of the National Institute of Social Sciences, an honor he shared with Mme. Chiang Kai-shek, Lieut. Comdr. Mildred H. McAfee of the WAVES and Dr. Edwin Grant Conklin. His address on accepting the Institute's medal won immediate headlines around the world. It may go down in air history as going farther toward setting a reasonable pattern for postwar air transport than any other single statement. Because this statesmanlike expression is so important to everyone interested in air cargo,* AIR TRANSPORTATION *here publishes it in full.*

By JUAN TERRY TRIPPE

EIGHTY-EIGHT THOUSAND men and women should be here tonight to receive this medal—the 88,000 members of the Pan American Airways organization. Each shares the responsibility for the services our Merchant Fleet of the Air have rendered to its country. Each will share responsibility for the services we hope to render to all people of the world—and by people I means *the* people—the average man and woman everywhere.

I welcome this honor for all of us: for the faithful weather observer who at this moment checks the cloud ceiling on a mountain top in China; for a mechanic in Africa testing the ignition of a *Clipper* as if the world's fate hung on his accuracy; for the ground officials and flying crews who, in cooperation with our Army Air Forces and the British, created in 61 days a modern United Nations supply route across Africa; for the master pilot and his flight crew of 10 who on the occasion of the Casablanca Conference flew President Roosevelt to Liberia and safely home again; for those who took Vice President Wallace on his epic goodwill tour of Latin America; for the flight crews who, on many trips throughout her country, transported that gallant woman, Madame Chiang Kai-Shek; for all the Pan American men who have pioneered, in 16 years, first the Caribbean, then Latin America, then Alaska and the Pacific to Australasia and the Orient, then the Atlantic to Europe and Africa, until their wings are indeed over the world and all its seven seas.

I accept for all of these men and women not only the medal of the National Institute of Social Sciences, but the moral responsibility that goes with it. You have bestowed this honor in other years on historians, scientists, doctors, educators, churchmen, masters of the arts, and leaders of industry.

They *make* civilization. We hope to *carry* it, to the common men in the remotest land in the farthest sea. And we shall carry back from that land to the common man in America, the many things that every land has to supply and to teach.

We can carry Americans and American

ideas on a scale undreamed of only a few short years ago. Just think! Only 16 years ago, in 1927, American air transport operated its first overseas service with the one and only plane Pan American owned. It was a flight of 90 miles from Key West to Havana, carrying the mail and eight passengers. Today, Pan American Airways has completed more than 120,000,000 miles of overseas flight with the great four-engine *Clippers*. And as those miles were logged—as problems arose and solutions were found—there developed a treasury of scientific fact elsewhere undiscovered—a fund upon which our Armed Forces and those of our Allies have been free to draw.

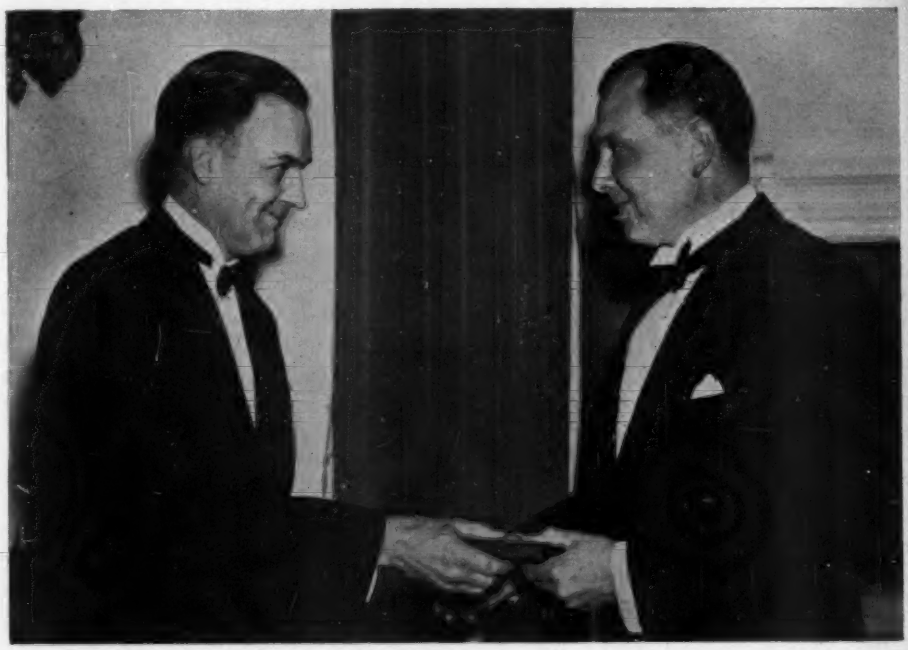
There have been such developments as the multiple flight crew, the accessibility of power plants in flight, and the system of scientific flight control so accurate, so scrupulously adhered to, that *Clippers* regularly keep schedules over 2000 miles of open sea and set passengers down on time and without incident.

America has evolved a highly trained, professional organization whose precision is unique in world aviation. Pioneering has proceeded in many remote areas—in Labrador, Greenland, Iceland and Alaska in 1932, in Africa in 1933, in China in 1934. Even in these war days, 60 countries and colonies, including all our Latin American neighbors, are being served. Transit which took months is now telescoped to days.

And let me repeat—this is done by an organization, with each individual working in cooperation, but each dependent on the other. No one man, not even a *Clipper's* master pilot, could fly the ocean without relying on countless other people—on his crew, on the engineers, maintenance men, radio operators, weather observers, forecasters, airport crews—in fact, on the great and complex organization that today conducts any modern transport system.

When the war is won, we will still have a real job to do to solidify the peace.

As we carry men, mail and merchandise—ideas and ideals—science, medicine,



***JUAN TERRY TRIPPE** is winning so many medals this year that even his broad chest will soon have no room left for another. Above, he accepts his first of the year, the American Museum of Safety's Williams Award (January* Air Transportation*), from the Civil Aeronautics Board's Chairman L. Welch Pogue, like Trippe one of today's most advanced thinkers on postwar air problems.*



War Is a Skill Our Sons Must Learn

Every American soldier fights with courage and self-sacrifice. But these alone do not win wars. War also demands high technical skill because it is a struggle not only of men against men, but also of machine against machine—tanks, planes, battleships. Without training in the use of these instruments of war, soldiers today are without weapons!

One weapon in this war—the airplane—calls for more personal skill than any other. And one of the most critical phases in a pilot's training is his step-by-step transition from primary trainers to combat planes. These steps cannot be abrupt, yet time demands that they be swift. Therefore, along with the relative stability and safety required in a training plane, Fairchild engineered into its trainers certain definite characteristics of the combat plane. Thus, they get a pilot ready for his second step while teaching him the first!

Fairchild training planes—primary trainers, bomber crew trainers and gunnery trainers—are being used on United Nations training fields throughout the western hemisphere. They are powered by Fairchild Ranger aircraft engines. They reflect the 20 crowded years which Fairchild engineers have devoted to "creating the plane for the purpose." The "touch of tomorrow" in Fairchild engineering indicates courage to try new things. We shall need many new things to further prosecute this war against our resourceful enemies. Fairchild has quite a number on the way—to add to those already on its record!

FAIRCHILD ENGINE AND AIRPLANE CORPORATION

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New York, N. Y.

culture, and the arts—we will again be carrying cargoes of goodwill. I hope we will never carry cargoes of imperialism and hate. We Americans must see that they are not sent. We must remember that air transport is the vehicle, not the cargo. It can serve good ends or bad.

North and South America relied on our air transport to implement the Good Neighbor Policy. But the Nazis, by the same token, counted on their international airline, *Lufthansa*, to help dominate and crush the world.

Air power can further anarchy or peace. It can destroy or build. It can be a lethal weapon or a life-giving tool—sword or ploughshare, Frankenstein or Aladdin's lamp, *Stuka* bomber or *Clipper*. And as surely as we meet here tonight it can enslave the common man—or it can free him.

Let me suggest, for your consideration, some ways in which air transport can be on the *right* side and do the *right* thing—how it can be made more completely the instrument of the common man.

Must Expand Market

The first way is simple. It is to assume our natural responsibility as a private enterprise and to offer the most value to the most people. That isn't as obvious as it sounds. Because air transport does have the choice—the very clear choice—of becoming a luxury service to carry the well-to-do at high prices—or to carry the average man at what he can afford to pay. Pan American has chosen the latter course.

The decision was made before Pearl Harbor. And over a year ago Pan American had started its program for the construction of 50 giant clippers, each capable of carrying 153 passengers from New York to London in 10 hours at a fare of a hundred dollars. These same Clippers operating over other Pan American routes would provide a service of 24 hours to Australia or China, 22 hours to Buenos Aires—all at comparably low fares.

In future years we will do even better. The war has been a bitter laboratory for air transport, but a laboratory nonetheless. Its benefits should be available to all the people in the peace to come.

Nor will these benefits be limited to low-cost travel and fast mail. There will be more instances of the flying of serums and doctors to epidemic areas. There will be food to fight famine. Air transport will bring greater prosperity to all the world—in tourist expenditures abroad—by stepping up the tempo of trade and commerce.

And surely the great other national air transport systems of the allies—British Overseas Airways, Russia's great "Glavaviaprom," Air France, Royal Dutch Airlines, Trans-Canada, and the rest—as well as Pan American, will wish to make sure that this new prosperity benefits the people—*all* the people of *all* the world.

These are the tangible benefits we may hope for. The intangible may be more precious still.

Understanding between nations should grow as more of us meet each other face to face and talk things over.

If America's early railroads had run North and South instead of East and West, there would probably have been no Civil War between the States. We all recall people against whom we were prejudiced by reputation, but whom we have come to like when we knew them. In my opinion the two old adages should be transposed to read "Absence breeds contempt," and "Familiarity makes the heart grow fonder." Our country can foster greater international good-will by providing frequent and cheap communications with the countries of the world.

And what is true of passenger service is equally true for mail. A ton of air mail is a normal part of a Clipper cargo. A ton of mail—80,000 letters means that 80,000 separate ideas have crossed an international boundary. It would be hard to overstate their influence.

In all these ways, air transport can carry the gospel of international goodwill. But we must also put our own house in order so that we may serve the peoples of the world to greatest advantage. And along this line we still have work to do.

It is obvious, of course, that the great national air transport monopolies, which represent each of the principal foreign nations will continue to compete with each other and with us.

But it is vital to establish an equitable

basis for such competition. Friendship will result from fair play. And we must correct certain unfair situations that have developed. To cite only one, there is the war-born problem confronting Great Britain.

In our joint war effort, the British are building, essentially, fighter planes and other military types. America is building military types and transports. It has been stated that at the peace America will possess most of the planes that could be used in international air transport—that while both countries have served a war role, unmindful of future commercial advantages, Great Britain, in so doing, has suffered a postwar handicap.

We all share the healthy American aspiration to be the winner of a race or a ball game or an international business competition. But fair is fair. If you want to win a baseball game, you try to out-hit the other fellow, but you don't take away his bat.

British Overseas Airways already has in essential war service three of Pan American's four-engine ocean Clippers. But these, as well as their sister ships, still in our own service will be obsolete. For these compelling reasons I urge that when the fighting stops, British Overseas Airways be permitted to secure—on equitable terms—all the ocean transport planes that are needed to restore the balance for fair competition. In fact, I urge that this principle shall have application in our dealings with the national airlines representing each of the United Nations.

This world of ours, in the age of flight, should be one world.

Your Institute of Social Sciences has proved it *can* be, by confirming in research many of the highest concepts we hold about the natural brotherhood of man.

The law of life is not so much the survival of the fittest as the survival of those *fittest to cooperate*. In the world scheme of things, only those who cooperate will survive.

Air transport has made use of many sciences; aerodynamics, metallurgy, celestial navigation—in fact every known branch of mathematics—medicine, electronics, chemistry and physics.

But it is to the social sciences that we turn for the solution of the human problems which must be met if we are to be sure of the world cooperation without which we cannot progress.

Pan American Airways recently undertook to give the wide distribution to the views of such social scientists as John Dewey, Doctor Hu Shih, Jan Masaryk, Exequiel Padilla, Stephen Leacock, the late Dr. George Crile and the Archbishop of Canterbury. We invited each freely to express his concept of the future. These enlightened minds did not agree on every detail—but there is a basic harmony in all their thinking. We must build a world which increases the stature of the common man.

To the extent that air transport by its vision and its faith can serve the common man, it is worthy of the honor you have conferred tonight.

Pan Am Pilots Tell How Far You Can See When You're Up

That eternal question of aviators, air travelers, and aviation enthusiasts alike—"How far can I see from the air"—has at last been answered by the veteran captains of Pan American *Clippers*.

They call their answer the "Vision Range" formula and worked it out scientifically after answering for years from their own knowledge the multitudinous queries of Pan Am passengers flying across and around Latin America and winging their way across the Atlantic and the Pacific on the clippers. All wanted to know how far they could see from "upstairs."

The pilot of a Flying Fortress taking off for a raid on Berlin and circling within sight of the coast of England at 25,000 feet can actually see objectives more than 190 miles away inside the borders of Germany. If the pilot were at the same altitude over Tunisia he could see central Sicily on the rim of the horizon.

Here's the answer, in brief:

From 1,000 feet you can see 39 miles.

From 3,000 feet you can see 62 miles.

From 5,000 feet you can see 82 miles.

From 10,000 feet you can see 123 miles.

From 25,000 feet you can see 194 miles.



Air Cargo Age As Seen By American Airlines

Head of Nation's Biggest Domestic Airline Looks Into Postwar Prospects

By A. N. KEMP
President, American Airlines Inc.

WHEN Tennyson saw the heavens filled with commerce, he was undoubtedly considered a little mad by his contemporaries. Those who foresee today a plane in every garage and a garage on very penthouse terrace are held imaginative, to say the least. Yet Tennyson's predictions have come true almost overnight, and few would have the temerity to say categorically that the Okies of the next generation will never own a sky flivver. The real ponderable in the problem is in the minds of man, not in our engineering genius, our aerodynamic experience, or our production or operation capacity.

But if a plane in every garage seems still chimerical, air commerce is an established fact. The Air Transport Command, which has been created within the space of less than a year, is now transporting more than 1,000,000 lbs. of vital cargo each month within continental limits alone. A hundred thousand separate items of war materials are being flown day and night from the American mainland to all sections of the globe. The Air Transport Command is currently flying ten times the peacetime mileage of all the world's airways combined, using airplanes which were originally designed for commercial use.

Within the last year American Airlines express shipments, quite apart from its participation in the Air Transport Command, jumped 120 per cent; within the last five years, almost 400 per cent. Air express had proved its value before Pearl Harbor. It has been essential since then. Wherein lie the greatest possibilities for its extension during the peace?

I make no specific predictions for the expansion of airlines in the postwar period, but I am satisfied that in the very near future—by the advent of peace at the latest—air transport will be hard pressed to meet the demands put upon it for vastly increased carrying of passengers, mail, and cargo.

Some conclusions as to the future of air cargo transportation, however, seem to be soundly based.

There will undoubtedly be an enormous increase in the use of cargo planes to parts of the world which are now and, for various reasons, will remain inaccessible to other means of transportation. For years air has been the only path to the rich radium mines of Canada's frozen Northwest, to the tin mines of the Bolivian Andes, to the back country of Australia.

Nature will not change her face nor temper her climate with the peace. Not only will vast regions, because of their geographic location or formation, remain inaccessible except to airplanes, but others will be open only to them from economic necessity. Resources as yet untapped in the hinterlands of Asia, Africa, India and South America will be developed by means of air transportation because of the practical impossibility of building railroads there for many years to come, if ever.

Warplanes Will Haul Cargo

There will be an increase in the size and a change in the type of the cargo plane, as well as in the number. The number of aircraft movements handled by the Civil Aeronautics Authority has increased from 300,000 in 1938 to 6,000,000 in 1942 and an estimated 15,000,000 for 1943. On this basis aircraft movements may well reach 60,000,000 by 1950. Much of the increase in the past two years has been in air cargo. Some of the planes now used in the Air Transport Command will be restored to their original purpose as passenger planes, but it is estimated that *one-third of the planes constructed under the present war program will remain as cargo carriers.*

Today cargo planes carry up to 10 tons and cruise at somewhat more than 200 miles per hour. Newer cargo planes are still on the restricted list and cannot yet be discussed in detail. We may be sure, however, that they represent substantial improvements in both cargo capacity and speed. Engineers have assured us that airplanes of much greater size and vastly improved performance can be built as the aeronautical art progresses.

Douglas announces an airplane with a cargo capacity of two box cars and transport efficiency of a 30-car train. Martin has plans for a 250,000-lb. commercial air vessel and says 500,000-lb. planes can be built in a very few years. As airplanes become larger and improved in their designs, the percentage of payload compared to gross weight becomes greater, with resulting improvements in overall efficiencies.

No one can safely hazard a prediction as to the ultimate use of gliders while they are still in the experimental stage. Under certain conditions in the future, however, we may see a limited use of motorless gliders attached to a "locomotive" as freight-carrying transports.

I doubt very much if cargo planes will in the calculable future haul much of the raw materials, such as coal, iron ore, lumber, cotton and cement, which account for the bulk of land-borne and water-borne volume and revenue. However, since being in air transport, I have learned to be skeptical of nothing along these lines. I do believe there will be a large short-haul tonnage for which the airplane would not compete.

I believe, also, that there will be an increasing decentralization of industry, with plants located near the sources of raw materials and power. Under certain conditions, their manufactured products

Kemp Forecasts

"By the advent of peace at the latest, air transport will be hard pressed to meet the demands put upon it for vastly increased carrying of passengers, mail and cargo."

"It is estimated that one-third of the planes constructed under the present war program will remain as cargo carriers."

"There will be an increasing decentralization of industry, with plants located near the sources of raw materials and power. Under certain conditions, their manufactured products will be carried by cargo plane to the distributor."

"Except for short distances, most first class mail will undoubtedly go by air. Possibly all of it, when the helicopter is perfected."

"Rates for air cargo will . . . come down and will undoubtedly reach a level comparable to present-day railway express."

"We shall emerge from this war with the greatest air transport system in the world. Much of our country's influence at the peace conference will depend on the strength of this system."

will be carried by cargo plane to the distributor. Indeed, it seems to me that the problem is not a question of what any single form of transportation is capable of by itself, but rather what effect the most efficient use of air can have upon all other forms of transportation. Each should function in its own realm and supplement the other to one common end.

Where an emergency exists and speed is essential, the airplane will have no competition. Where no emergency exists, there are certain fields where the airplane will remain supreme. Except for short distances, most first class mail will undoubtedly go by air.* Possibly all of it, when the helicopter is perfected. It will probably prove more economical to ship by air perishable goods, books, motion picture films, medical and dental supplies, luxury items, style merchandise, essential machinery parts, and commodities whose value is so great that insurance and warehousing costs would outweigh any difference in rates. Rates for air cargo will, of course, come down and will undoubtedly reach a level comparable to present-day railway express.

Air cargo service will be available to every business man, both from the standpoint of proximity and from the standpoint of economy of service. Whether he uses air, land or water as his medium of transportation will depend upon which is more efficient for his purposes. He might conceivably use all three.

For example, a large distributor in Central America might order a substantial amount of merchandise, say 500 tons, from a manufacturing concern in the U. S. The distributor may want to begin sale of the merchandise immediately in order to capitalize on a ready market and high current value. It is perfectly logical, therefore, for him to order a hundred tons of his merchandise flown by plane to establish a supply against the arrival of 200 tons by rail and the final 200 tons by boat, without incurring an excessive transport cost which would rob him of his due profit.

Populations Will Shift

As a by-product of the decentralization of industry, there should be a shift of population. At the present time 90 per cent of the population of the earth is in the Northern Hemisphere. But there are vast natural resources so far completely undeveloped in the Southern Hemisphere. As the airplane brings these areas into the orbit of world commerce, workers and operators will move their homes to their field of operation, knowing that they are no longer cut off from civilization as they would have been before the air age. No part of the globe is more than a few flying hours from any other part. Their children could go to school anywhere in the world and spend their vacations at home.

In our own country this decentralization of industry will result not only in a shift of population—a normal commuting distance may well be 200 miles but it will also result in a shift in real estate values. As rural values increase with the development of near-by industries, congestion in cities and skyrocketing real estate values may become a thing of the past.



***HIGHER AND HIGHER** go wartime total of cargo hauled by American Airlines, but, says President Kemp, you haven't seen anything yet. Not when Douglas is already building a plane with the cargo capacity of two boxcars and "the transport efficiency" of a 30-car train.*

* See "All First Class Mail To Fly," May Air Transportation, page 42.

Wages and buying capacity throughout the country will also tend to find a common level. This will bring about changed merchandising methods, for the mountaineer in the Kentucky hills and the sheepherder in Wyoming will be a potential customer for any product manufactured anywhere in the U. S., or, for that matter, in the world.

The limitations to the use of air cargo are not primarily physical ones. Air cargo is here to stay and to grow in power and importance as one of the three great forms of transportation. (It could increase a hundredfold and yet represent only one-tenth of one per cent of the freight ton-miles now carried by the American railroads.) There is room for all three.

How much of the world trade by air the U. S. will retain after the war is a matter of economics and politics. We shall emerge from this war with the greatest air transport system in the world. Much of our country's influence at the peace conference will depend on the strength of this system.

Miami Pan Am Job Hub

To expedite employment for all branches of the Pan American Airways System in the area, a central personnel procurement office has been opened in Miami. Applications for work for a number of divisions will be received. To supervise, Robert F. Green, manager of Pan American's New York office, is now in Miami.

TCA Issues Air Travel Cards

Trans-Canada Air Lines has received authority to issue its own air travel cards by means of which passengers may receive credit and discounts. TCA has been honoring travel cards of 16 U. S. airlines. Travel card holders will be entitled to 15 per cent discount on published one-way fares over TCA routes in Canada.



What You Can Do to Hasten Air Cargo

(*Continued from Page 24*)

it would cost to distribute it by rail or ship counting *all* the costs. Take just one comparatively minor item—*packaging for shipment.* In many cases, you certainly don't have to pack a product as securely and as heavily for air transportation as you do when it is going to be bounced and bumped across the country on a freight train, or stacked under tons of other merchandise in the hold of a ship.

Example of Shipment on Basis of Distribution Costs
Direct vs. Indirect Costs

A wooden box containing five portable typewriters, each in a carrying case and a carton surrounding each machine, is to go from Hartford, Conn., to Bogota, Colombia. Gross weight, 105 lbs.; net, 75 lbs.; tare, 30 lbs. 5 cu. ft. distance by surface transport, 3,100 miles; by air, 2,700 miles. Value of box, $1.75; machines, $140 wholesale, U. S.

Air Transport—Direct Costs

Rates per ton-mile to be applied	*$ .15
Rates above converted into pound-miles	$ .0075
Charge for air transport on shipment under the rate of 15c. a ton-mile Rate of .0075c x 2,700 miles	$20.25

Surface Transport—Direct Costs

Inland transport charges in U. S.:	
Hartford to New York 43c per 100 lbs. 43c x 105 lbs. by motor carrier	$ 0.45
New York to New Orleans at $2.97 per 100 lbs. L. C L. ($2.97 x 105)	3.01
Ocean transport from New Orleans at 72c per cu. ft. 72 x 5	3.60
Foreign inland rail charge from Buenaventura to Bogota at $7.50 per 100 lbs. ($7.50 x 105)	7.88
	$14.94

Difference in Direct Transport Costs

Unfavorable to air transport in comparison to surface transport	$ 5.31

Indirect Air Transport Benefits Saved:

Packing—Elimination of wood box-cost	$ 1.75
Air transport cost reduction by reducing weight as result of eliminating box, 20 lbs. x 15c. per ton-mile or .0075c per lb.-mile for 2,700 miles	3.65
Duty saving as a result of lower gross weight on which customs are calculated on 20 lbs. or 9 Kilos @ .05 pesos per Kilo, peso being 57 U. S. cents, or 9 x 5 divided by 57, exclusive of surcharge, saving	0.26
Interest—In transit time, saving as result of 3 days by air, 18 days by surface transport or 15 days at 6% per annum on $140 or 140 x ¼%	0.35
Inventory time saving estimated as equal to transit time	0.35
Insurance—Saving estimated at $1.25 by surface as against $0.84 by air: difference	0.41

Differential

Combined direct and indirect air transport cost compared with surface transport, favorable to air transport	$ 1.66

* *Estimated postwar rate.*

That's just a few cents of difference at best, you may say. But it is those few cents of difference, multiplied through hundreds of transactions, that go to make the difference between profit and loss in business. And that go to make the comparison between air and rail costs a fair comparison.

Take, for instance, this example of an actual shipment—that is, based on today's actual costs—a cost analysis for which I am indebted to Mr. George F. Bauer, international traffic analyst, of Air Cargo Inc. (*See opposite page*).

This example, of course, involves shipping outside of the U. S. But I am sure that it is no less interesting to you, because New England has always been a champion of foreign trade and much of your industry has been built to its present greatness—on a foundation of successful selling outside the U. S.

It is important that we continue to prevent monopolies and the shipping public be allowed a choice of carriers and routes. Certainly New Egland, with its tradition of independence and individuality, would strongly resent being given no choice in the use of an air carrier. Of course, the Civil Aeronautics Board has the power to prevent unfair rates, but this may not prevent discrimination in the frequency and type of service, and can never replace the advantages to the shipping public of active and vigorous competition within the wise limits imposed by Government regulations. I think it will be readily admitted that when rail, water and highway transportation is in independent competition the shipping public greatly benefits.

Other Methods of Shipping Should Cooperate with Air

By this I do not mean to advocate a wasteful duplication of flying services, but rather that the rate bases be set up to encourage the cooperation of existing traffic organizations such as, motor lines, carloading companies and freight forwarders. If a rate structure is set up, which would provide a reasonable return for their participation, it would give the shipping public all the service advantages accruing from spirited competition. These independent companies would solicit and service the local field in a way which could *not* be done by the operating companies themselves, without a top-heavy sales organization (note I did not say no sales organizations at all) and consequent increase in field to field freight freight rates, whereas existing organizations would add this service without considerable increase in their present overhead.

An interesting illustration of this is the history of "carloading companies" in the last quarter of a century. The practical value of their services to both the shipping public and the railroads is reflected in the increasing share of less carload merchandise handled by them, and last year the industry was recognized by an amendment to the Interstate Commerce Act.

Freight Forwarders Must Play Important Part

In the *international field* there are numerous forwarding companies engaged in handling export and import freight. A vast volume of our foreign trade is handled by these freight forwarders and in normal times steamship lines *depend on them* for a large share of their freight tonnage, for which steamship lines allow the forwarders a *recognized commission.* These forwarding organizations have agents and connections in every part of the world and, consequently, have intimate contacts with the buyers in foreign countries. This is exceedingly important because the buyer normally controls the routing of the shipment. No doubt, our American air lines will be faced with foreign competition, just as American steamship lines will be, and will need all possible cooperation from the freight forwarders in maintaining their share of traffic for our American planes. These forwarders render an equally important service to the American exporter in determining routes, preparation of shipping documents to comply with foreign requirements, furnishing insurance, and making foreign collections.

I sincerely hope that the air lines and the Civil Aeronautics Board will fully recognize these important factors in building a solid foundation for the future.

If you have any foreign freight forwarders in your city, I strongly urge you to get acquainted with them and to make them a part of your committee or whatever group you eventually set up to encourage your city's development as an air cargo port.

I understand from your chairman, Mr. Cheney, that one question you especially want me to answer is "*What does a community need to establish air freight and express services?*"

That, Mr. Cheney, is a broad question. A book could be written in answer to it, and I think it might make a pretty interesting volume at that.

The quick, short answer is that you need *air cargo.* You need either goods to ship out by air or customers to buy goods that are shipped in by air. Once you have enough of either, you can be sure the airlines of the United States are interested enough in your business to beat a path, figuratively, right to your town.

Get Local Groups, Newspapers to Help

That you need air cargo, I am afraid, is one of those answers that don't mean very much. What you want to know is what you, individually and collectively, can do right now.

One thing you can and should do is to exert your own individual energies toward a newly aroused community interest—not just in aviation, for goodness knows who *isn't* interested in aviation today?—but in air *shipping.* Ten to one, your chamber of commerce has an aviation committee or had one back in the days when new airlines were being opened-up every other week. Get that committee busy now. Start studying the possibilities.

Don't limit your committees just to aviation enthusiasts, private pilots, airline officials and the like. But get your industrialists interested, especially traffic managers and export managers of your industries. Get the chief buyers of your big stores. Tell about optical.

Start a regular program of discussions and forums on the subject of what air cargo, when it arrives in a big way, *as arrive it will,* can do for the business and industry of your town. And on what your town can do to provide air cargo traffic, for you can't separate one from the other.

You have right here in New England some of the most progressive air transportation and aircraft manufacturing people in America. Ask your airlines and your aircraft manufacturing organizations to provide speakers for your meetings. Some of the airlines have some magnificent films on the subject of what air transportation is doing now and will be doing before long. Often these are available without any charge whatever for gatherings such as you might stage in your town. Ask your airline people about them. These films are already being used in many colleges as an integral part of the new courses of instruction on air cargo and air transportation generally.

Once you start doing that, you will have begun to get your city ready for the air cargo age. But you will only have begun.

You will want to watch the news. You will want to be sure that no legislation is passed, either in your state or in Washington, that will jeopardize this future which can easily be yours. And to that end, you will want your program of public relations and public education to go beyond your own little group.

> *Get your newspapers interested in the subject. I don't have to tell people in New England, where the American newspaper was born, what a power for progress an aroused newspaper can be in any community. Make your editor a member of your committee, if you can. Enlist his support for your program.*

Once you have your town thinking in terms of *shipping by air*—your industrialists, your merchants, and your people—you can begin considering such questions as the adequacy of your airport. You can, perhaps, start talking to your airlines about better service for cargo—now that you can begin to talk in terms of the business which is there (or will be there when the war is over).

Finally, I should like to leave this thought:

New England was once the center of everything in the United States. It was no accident that Boston came to be known as "The Hub."

New England once dominated many industries. It still dominates many, but some of them have drifted to other parts of the country. Some have sought out more central locations.

Tomorrow, when the cargo airplane comes into its own—when New England's products can be delivered in California as quickly as today they are delivered to Philadelphia—and at an economical cost—you are going to find, I predict, that

your lack of central location isn't going to matter nearly so much. In fact the airplane is going to give you a new kind of central location, midway on the direct route from the center of the United States to the center of the Old World.

In that destiny, if you of New England can vision it and can start planning for it in a hardheaded, practical, Yankee way, New England can regain, I believe, all of the power and prominence it enjoyed a hundred years ago, and add a lot more beside. I think you'll do it. And I say: *More power to you.—Keep them flying.*

United Seeks New N. Y.-Boston Route

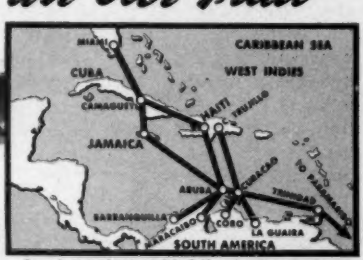
Application to operate air transport schedules between New York and Boston via Hartford has been filed with the Civil Aeronautics Board by United Air Lines Transport Corp.

The company also has an application on file with CAB to operate air transport schedules from Boston and Hartford to Cleveland for direct connection there with United's transcontinental service to the Pacific Coast. CAB examiners recommended on Feb. 12 the denial of this application because they felt public convenience and necessity did not require this new service. Public counsel for CAB, in his brief filed with the examiners, said that "the logical authorization, assuming competition into Boston is required, would be to permit United to compete with American Airlines between Boston, Hartford, and New York."

"While United Air Lines does not favor the principle of direct paralleling of competitive routes," United's president, W. A. Patterson, said, "our company does believe that direct one-company service between cities on its route and Hartford and Boston is essential, and the establishment of such a route to be operated by United is in the public interest."

The Flying Dutchman Again Blazes an Air Trail





Starting twice-weekly Miami-West Indies flights, with South American connections.

Provides Vital Passenger and Freight Link Between the Americas

Brings New York within 24 Hours of Curacao

They're off! K. L. M.'s multi-engined airliners, fastest in the world, soar from Miami out over the Caribbean. They're opening a new route which makes a hop from New York to South America *less* than a sun-to-sun excursion!

Normally flying all five continents, K. L. M. pioneered the Amsterdam to London route back in '19 . . . founded the West Indies Section in '34, after making the first mid-Atlantic crossing ever flown . . . maintain a peace-time European network of European air routes, with such global through-routes as Amsterdam to Batavia—9,000 miles away.

K. L. M. offers vast experience in safe navigation and expeditious handling of passengers and freight. For reservations or information, apply to K. L. M. Royal Dutch Airlines, 521 5th Ave., or any office or agent of the Holland-America Line.

K. L. M. ROYAL DUTCH AIR LINES

World's Oldest Operating Transportation Airline

Member International Air Traffic Assn.

AIR-PORTATION NEWS

(TRADE MARK)

Air Transport Association of America Names Directors



Jack Frye



Terrell Drinkwater



C. Bedell Monro



T. E. Braniff

The Air Transport Assn. of America last month elected as directors: W. A. Patterson, president, United Air Lines [*see page 41*]; T. E. Braniff, president, Braniff Airways; O. M. Mosier, vice-president, American Airlines; Terrell C. Drinkwater, executive vice-president, Continental Air Lines; Jack Frye, president, Transcontinental & Western Air; C. Bedell Monro, president, Pennsylvania - Central Airlines, and E. V. Rickenbacker, president, Eastern Air Lines.



Croil Hunter

At the outset of the New York meeting, Colonel Harold R. Harris, Commanding Officer, Domestic and Training Wing of the Air Transport Command, paid a tribute to the commercial air carriers for the "fine cooperation" given in the training program and the transport of air cargo. Colonel Harris said the work being done by the air lines in their training of officers and enlisted men and in the carrying of air cargo was one of the "outstanding things in the whole war effort."

Named as secretary was M. F. Redfern. Joseph Hintersehr was elected treasurer. Croil Hunter, president, Northwest Airlines, was elected vice president of the association to succeed C. E. Woolman, vice president, Delta Air Corporation.

LaGuardia Air Cargo Tonnage Gains 47 Pct.

Tonnage of air express handled through LaGuardia Field, New York, in the first five months of this year was up 47 per cent over the comparable 1942 period, the air express division of Railway Express Agency reports. A total of 2,252,058 lbs. of cargo was handled for the domestic and international airlines in the five-month period, compared with 1,531,626 lbs. in 1942. Monthly poundage totals have exceeded 400,000 each month since the first of the year.

Gross revenue of this cargo, January to May, was more than $1,000,000, an increase of 26.4 per cent over the similar 1942 period,

Flying Dutchmen's Airline Finally Opens Service to U.S.

Royal Dutch Air Lines, one of the world's veteran air carriers, has completed preparations for the first regular direct air service between Curacao, Netherlands West Indies, and Miami. Actual first flight was to be made on or about July 6.

In view of the importance of the flight, the Royal Netherlands Postmaster announced that the event would be commemorated with an official cachet, affixed to all philatelic mail flown on the first flight from either Curacao or Aruba but no philatelic mail was to be flown from Miami or intermediate points.

Dutch pilots flying American Lockheed planes [*see page* 8] will maintain a twice-weekly mail, cargo and passenger service. Two routes will be flown, alternating from Curacao and Aruba to Miami, by way of either Kingston, Jamaica, and Port au Prince, Haiti, and Camaguey, Cuba.

The West Indies section of KLM was founded on a modest scale in 1934 [*see* The Flying Dutchmen Carry On with Cargo, AIR TRANSPORTATION, December, 1942]. A veritable network of air routes, linking all important Caribbean countries, was established in 1938, as far as Paramaribo, Surinam, Dutch Guiana; Colombia and Venezuela, providing also through connections to Central America and to both coasts of South America.

All KLM airliners carry a crew of three, are equipped with two-way radio and other modern navigational devices as well as with Sperry automatic pilots.

KLM (*Koninklijke Luchtvaart Maatschappij voor Nederland en Kolonien*) was founded in 1919. Its first international airline between Amsterdam and London was opened in May, 1920, the first airmail being flown to England in July. Thereafter KLM extended to Copenhagen, Paris, and Brussels.

The first flight from Amsterdam to Batavia, Java, was made in 1924, and the first experimental airmail flight to Batavia and return to Amsterdam in 1928, until regular service was established in 1930.

In December, 1933, the Fokker *Pelikaan* made a record-breaking flight with Christmas mail to Java and return to Amsterdam in four days and four hours. KLM participated in 1934 in the epic MacRobertson air race from England to Australia in a Douglas DC-2 powered by Wright motors. The *Uiver*, which became popularly known as the "flying hotel," finished second in three days, 18 hours, winning the first prize for commercial American aircraft.

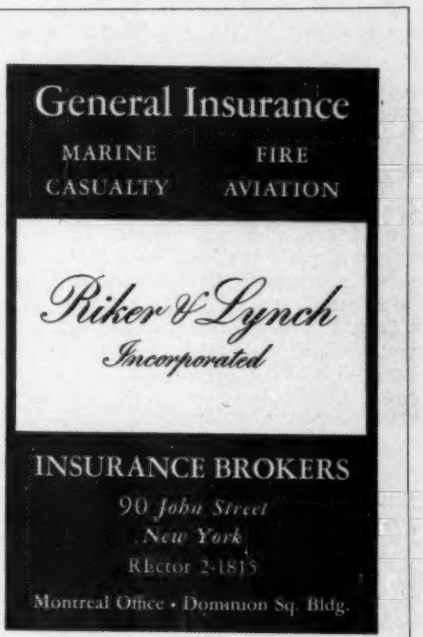
Transatlantic Christmas mail was flown for the first time by KLM's *Snip* from Amsterdam to Curacao via Paramaribo, Surinam, in December, 1934.

The first airline in the Netherlands West Indies was established between Curacao and Aruba in 1935.

The forthcoming flight to Miami is made in one day, reducing transit time for air mail by at least one full day as, previously, air mail from and to Curacao, was flown in a roundabout way by connecting carrier.

I was very interested in reading your publication and believe that there is a good future ahead for AIR TRANSPORTATION.

BASIL R. LITTIN
Chief, Publications Section
Civil Aeronautics Administration
Washington, D. C.





***MID-CONTINENT AIRLINES** wins the National Safety Council's Aviation Safety Award for commercial airlines in its class, presented by Ned H. Dearborn, right, secretary of the council, to President J. W. Miller, of Mid-Continent, in recognition of 40,397,425 passenger-miles without a single injury to passengers or crew, in Kansas City.*

Canada's Ocean Airline To Start This Month; Can't Wait for Peace

From Ottawa last month came news, credited to Munitions Minister C. D. Howe, that far from waiting for the end of the war, Canada would launch its own transatlantic airline some time this month.

Lancaster bombers now being built in Canada would be used for the service at the start, Ottawa sources indicated.

That Canada has long had its eye on the promising transatlantic opportunity has been no secret since the Government-owned Trans-Canada Air Lines announced its ambitions in that direction early this year [AIR TRANSPORTATION, *April: Canada Plans To Fly the Oceans*].

When TCAL's President Herbert J. Symington was talking in the spring, the talk was all postwar. Moreover, it was then authoritatively, if somewhat apologetically, stated that Canada had no air transport manufacturing industry of her own. Technically, of course, Lancaster bombers aren't transports—though admittedly they haul more payload in the form of bomb tonnage over the Reich than either of the vaunted U. S.-designed and built bombers, Boeing's *Flying Fortress* or Consolidated-Vultee's *Liberator*. And the *Liberator*, at least, is already being widely used, in only slightly modified form, as a cargo-liner [AIR TRANSPORTATION, *June*].

Watch More Fords Glide By—There'll Be $31,000,000 Worth

A new and larger cargo glider contract, involving approximately $31,000,000 worth of the engineless air transports, was signed last month with the War Department by Ford Motor Co. Ford already is the nation's largest manufacturer of these large gliders.

With nearly the wingspread of a medium bomber, and capable of carrying 15 invasion-equipped soldiers, the craft will continue to be made at Ford's woodworking plant at Iron Mountain, Mich.

Approximately four months after blueprints of the Waco-designed ship were handed to Ford engineers a year ago, the first Ford-made glider was ready. Ford men re-designed various parts and assemblies, adapting the ship to mass production. Many of the gliders built at Iron Mountain were knocked down and shipped by truck and assembled at the Ford airport in Dearborn. From there they were towed all over the nation by twin-engined Army transports. Now the gliders are crated for export at the northern Michigan plant.

Reduced Cargo Rates Are Indicated by CAB Action

That the long disputed high cost of shipping cargo by air may be on the way down was at least indicated last month when the Civil Aeronautics Board told five airlines (American, Eastern, TWA, United and Western) that they needn't participate in a proceeding to determine whether passenger rates be reduced.

The understanding in Washington was that the lines would reduce passenger fares enough to satisfy the board. But more significant to shippers was the announcement that all five would cut "the basic charges of air express" by a fairly substantial 12½ per cent.

CAB Member Harlee Branch wasn't satisfied, however. He filed a dissent insisting on a complete investigation of all rates, implying that the proposed reductions were far from enough.

AIR CARGO PERSONALITIES



WILLIAM ALLAN PATTERSON, President, United Air Lines

CURRENTLY carrying 30 per cent of the nation's domestic air express and 33 per cent of the nation's air mail is United Air Lines which, consequently, has a place of major importance in air cargo. Heading that organization and its 6000 employes is dynamic, alert William Allan Patterson.

They say that Patterson might still be a banker if, in 1919, he had not been intrigued by the sight of an old pusher-type "flying machine" at Crissey Field, San Francisco.

Patterson then was an assistant to one of the vice presidents at the Wells Fargo Bank in San Francisco where he had worked up from the job of office boy. Whether or not the glimpse of that airplane actually did change his career, he promptly paid $5 for his first trip aloft. It wasn't much of a jaunt—just around the airport and back—but it left a lasting impression.

In 1927, while still in banking, Patterson had an opportunity to handle the account of Pacific Air Transport, which had started flying between Los Angeles and Seattle—a predecessor division of United Air Lines. So interested did he become in the company's operations and in aviation's future that he resigned from the Wells Fargo Bank on April 15, 1929, to become assistant to the president of Boeing Airplane Co. at Seattle.

Because the Boeing interests were then engaged both in aircraft manufacture and in air transport, Patterson had a chance to participate in both phases of the fast-developing aviation picture.

In 1934, Patterson became president of United Air Lines. Since then his story and that of United have been so closely intermingled that one is not complete without the other.

He launched new and costly research

programs for the benefit not only of his company but of all airlines. In his corporation he fostered strong cooperation between management and personnel. Throughout the aviation industry and in other, unrelated fields, he became known as an outstanding personnel executive.

In recent months Patterson has gained national attention for his "rationalization" of the postwar air cargo subject (*See "Keep Air Cargo's Feet on the Ground,"* AIR TRANSPORTATION, *December* 1942). He has stated that, in his opinion, the airplane will supplement rather than supplant other forms of transport. Yet he does not overlook the tremendous potentialities of the coming "age of flight."

He has said that, following statisticians' trends to their logical conclusions, the airlines can anticipate a thirty-fold growth within about 10 years. This would contemplate the transport by air of 50 per cent of all express moving by rail today, 80 per cent of all business in first class Pullmans and at least 75 per cent of all first class mail traveling over 400 miles.

The chief executive of United Air Lines is accustomed to progress. His company to date has flown over 250,000,000 miles, serves 35 cities in 16 states and one Canadian province, flies 5,200 route miles on regular schedules and many times that mileage in contract operations for the Air Transport Command.

Born in Honolulu, Mr. Patterson is 43. He and Mrs. Patterson, with their two children, Patricia Ann and William, Jr., live at Northbrook near Chicago.



(TRADE MARK)

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500	4 Hours	1.00	1.28	1.60	2.40	5.00	10.00	20.00
1000	9 Hours	1.00	1.68	2.40	4.20	10.00	20.00	40.00
2000	17 Hours	1.00	2.48	4.00	8.00	20.00	40.00	80.00
3000	20 Hours	1.00	2.88	4.80	9.60	24.00	48.00	96.00

Railway Express Agency's air express division issues this graphic table of weight, flying time and costs for express cargo shipments within the U. S. It's part of a new, easy-to-understand, file-size brochure on "How To Ship by Air Express during Wartime" now being distributed among shippers-by-air. Note that the 1-lb. rate doesn't increase, regardless of distance. The cost of a single pound shipment is the same, wherever the destination in the U. S.



TO W. Frank Persons, former head of the U. S. Employment Service and recently director of industrial relations for Consolidated-Vultee Aircraft, who has joined Ryan Aeronautical Co. as head of its newly-organized industrial relations department.



W. Frank Persons

Persons has been a nationally-known expert on social work and human relations for 30 years. In 1917 he was director general of civilian relief for the American Red Cross; in 1919 he went to Europe to organize the International League of Red Cross Societies; in 1921 he became vice chairman of the American Red Cross. Later he served as industrial relations director for several public utilities, became secretary of a national trade association, and was one of the leaders in the crusade against loan sharks which resulted in the enactment of legislation regulating small loans. In 1933 he went to Washington as assistant director of the Civilian Conservation Corps, and later became head of the USES.

TO W. M. Kimball, newspaperman, editor and public relations man, who has joined the public relations staff of Fairchild Engine & Airplane Corp., according to an announcement by J. Carlton Ward Jr., president.



W. M. Kimball

As assistant to Joseph E. Lowes Jr., he will take over editorship of *The Pegasus*, post just vacated by Charles H. Gale, veteran aviation editor and writer. Gale has taken a new position with Hill and Knowlton in Cleveland. Mrs. Jessie Germond, formerly assistant editor of *Air Trails* and *Air Progress*, is assuming the associate editorship of *The Pegasus*.

Kimball is a former editor and feature writer on Minneapolis newspapers where he covered aviation subjects. He left there to do public relations work with Carl Byoir & Associates in New York and Chicago.

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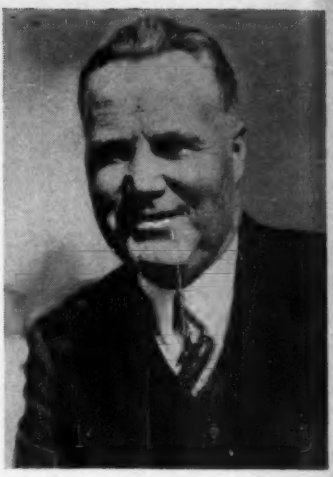
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Surface Shipping Will Hold Its Own After the War



But Air and Sea Lines Should Work Together For Postwar Prosperity

NO MATTER HOW enthusiastic Americans become about air cargo, surface shipping will continue to carry the bulk of ocean freight, declares this prominent shipping executive in an article written especially for AIR TRANSPORTATION. But, declares Mr. Buckley, there is plenty of room for intelligent cooperation between air and surface transport. His views are presented here as representative of his field, though they are not necessarily in all details the views of the Editors.

VETERAN OF 41 years in shipping, Mr. Buckley joined Pacific Mail Steamship Co. in 1902. After 15 years he established his own ship agency business in 1917. In late 1921, he went to Washington as manager of operations of the U. S. Shipping Board. In 1922 he joined the Dollar Steamship Lines, with which he remained until moving to his present post.

By M. J. BUCKLEY

Vice President, Freight Traffic, American President Lines

THE economic structure of the U. S. has undergone many striking and important changes during the past 40 or 50 years, but in no field have there been greater alterations or more improvements than in ocean shipping. The railroads supplemented dry cargo rolling stock with competent refrigerator service and adopted stream-lined facilities, but by and large the margin between obsolescent and modern rail equipment is not as marked or as variable as prevails off-shore.

Water transportation has been completely revolutionized. We witnessed the transition from iron to steel vessels, from sail to steam and from reciprocating engines and Scotch boilers to turbine engines and water-tube boilers, with increased speed, economy and efficiency of operation. The latter phrasing sounds hackneyed from over-use, but it tells the story as we'd like to relate it. Oil fuel gradually replaced coal, particularly in U. S. trade, and the electric turbine joined the procession of improvements. Finally, the Diesel or motor ship.

Passenger vessels half a century ago were coal burners and not infrequently carried auxiliary sail. The smart passenger liner, developed principally after the first Great War, became later the "luxury" ship. As a democracy we're a great nation for titles. Travel across the Atlantic, the Pacific and elsewhere really established the era of "floating hotels" which culminated in the *Normandie*, *Queen Mary* and

Queen Elizabeth. The U. S. became the focal point of everything that was expensive and elaborate in the way of ship travel. America, with its rapidly increasing wealth and desire for pleasure and recreation, indulged its inclination to vagabond and share its wealth and extravagance with all countries. Business travel increased as international trade expanded. The provincial "see America first" broadened into "see the world" as the travel bug grew and exchange of commodities spread.

The tramp, or purely bulk cargo carrier (except for industrial concerns) likewise joined the declining trend. Berth services and established trades replaced the single unit and wandering type of service. The invention and progress of the automobile, electric refrigerator, washing machine, radio, sanitary equipment, air-conditioning and other modern improvements, which are so much a part of American life, created similar demand abroad. The development of these facilities in America made it possible prior to the opening of World War II to realize, for instance, the luxury and ease of air-conditioning in Buenos Aires, Singapore, Hongkong, Bombay, Alexandria and Capetown in the hotel, the train, the theater, in public buildings and in the home, just as they are enjoyed in our own country. Sometimes we speculate as to whether any greater or more useful improvement in living conditions may be expected or whether we haven't reached the saturation point of personal comfort and satisfaction in human life. We gave freely of all our inventive advantages to the rest of the world and the foreign appetite for improvement makes the future outlook very hopeful for America's foreign trade from the double viewpoint of cargo and passenger movement.

War Hastens Progress

War is no bargain. It wrecks, degrades, brutalizes. But it does stimulate invention and advancement. When destruction is greatest, improvement is most pronounced. In common with other forward movements, the development of the plane has been speeded up beyond its normal growth by the last two Great Wars and that naturally brings us to air transportation and its place in the future.

There is no doubt that after the war the world will want the benefits America, because of its push, energy, inventiveness and resources, enjoys to the maximum degree. A better standard of living in all countries is certain. As the advantages of civilization spread, the trading of facilities and commodities mutually around the globe will mean much to international transportation. Plane travel should strikingly increase. Within the limits of the pocketbook, the attraction of speed, economy of time and improved devices for safety and comfort will bring an upsurge of travel by air.

Praises Patterson View

Cargo movement is something else again. The great bulk of cargo will continue to move by surface rather than overhead transportation. It isn't sensible, or at least logical to presently anticipate more than very limited freight shipments by plane. The tendency to drive a close bargain, intensity of world competition, lack of necessity for extreme speed, credit limitations and other understandable factors make this very obvious. The buyer here or abroad, working on a close margin as to profit or loss will continue to use the most economical process. Ocean transportation will always be relatively cheap. We can't conceive that the plane will lift or transport large cargoes anywhere nearly as economically as by water. The comparison has been very capably and convincingly illustrated by W. A. Patterson president of United Air Lines [*see* AIR TRANSPORTATION, *January*], and other thoughtful experts who are guided by factual rather than Arabian Nights' possibilities.

This entire situation cannot be competently reviewed within the limitations of a short paper. Likewise it would presuppose the gift of prophecy to anticipate even fairly closely what proportion of international commodity trade and travel will utilize the respective types of transportation. It seems reasonable to assume that with improved safety facilities the air will handle the speedy and more luxurious type of travel. This will include people with means and the business executive to whom time means money. The traveler for health, recreation and pleasure, the tourist, the general run of business personnel.

also the fluctuations of emigration and immigration, will, or should continue to utilize surface transportation, regardless of time in transit.

This brings to mind, incidentally, the fact that the day of the slow ship is gone even for freight, except for extremely low-value and bulk cargoes. The fast freighter, the tanker and the combination passenger and cargo vessel will replace the useful vehicle of the past generation. It is more than likely the super passenger vessel or extreme luxury type will likewise follow the declining trend, For economy of operation and prospective returns, the original cost and maintenance of the big, swank liner will be too great, especially if, as may be expected, the passenger plane will skim the cream heretofore enjoyed by the luxury liner.

Sea, Air Do Not Clash; Both Should Cooperate

There is no clash, however, between the two types of transportation. There can and should be a close collaboration or co-relation between air and surface which will be most beneficial and sensible from the viewpoint of investment as well as service desirability to the interested public. The publications are full of stories about anticipated progress of air travel and freight movement. Some of these are like the vaporings of Aladdin's lamp. Most reviews are, of course, sane, safe and sensible. In a moderate way, we anticipate reasonable progress as to the ocean-going vessel and its place in world affairs. One thing is important and final. There are no new worlds to conquer as regards variety of transportation. Land, water and air development is now capably supplied. All that remains is improvement and expansion.

Human progress is the keynote of all these problems. The foregoing short review of the last 40 or 50 years is a story of international growth and improvement. There will be no stop in this regard. This forward direction should continue and will not only apply to our country but even to a greater degree to other nations with which we have come in closer contact and unison. Once gained, any uplift in living conditions is not surrendered without substituting a more important and general betterment. If a desire can be cultivated in great countries like China, India, Africa, South America and the various nations of Europe to emulate our living standards and superior conditions and facilities, we should look forward to a great expansion in international trade.

We have watched this growth on the Atlantic and on the Pacific. We have seen the merchant marine of the world grow from 15,898 vessels (of 100 gross tons and over) in 1900 to 29,763 in 1939, of which United States' proportion was 932 vessels in 1900 and 2,958 in 1939. The gross tonnage is even more striking—22,369,000 tons in 1900 as compared with 68,509,000 tons in 1939, of which our proportion was 1,455,000 in 1900 and 12,003,000 in 1939. Incidentally, the peak year for United States flag vessels was 16,049,000 in 1920. These figures are from Lloyd's Register of Shipping and are naturally authentic.

Figures issued by the Department of Commerce Bureau of Marine Inspection and Navigation, reveal that of the 1,455,000 tons of American vessels of over 100 gross tons in 1900, 817,000 tons were engaged in foreign trade. Of the 12,003,000 tons in 1939, only 3,313,000 tons were engaged in foreign trade.

New Era to Dawn For All Transportation

We have watched the translation of one type of surface vessel to another and latterly to the ship which narrows distance through the air. Every type of transportation is now available. It only remains to synchronize, vitalize and improve what we have.

Americans have become travel-minded and they have the means with which to satisfy this desire. They have been taught, especially because of the present emergency, to support and encourage their own ship, surface or air, whether our flag is fixed or flying free. The people of the world want to live better, to understand and appreciate each other's ambitions and desire for improvement, which is the strongest factor for international peace. The ship is the emissary of hope and sympathetic consideration. We sincerely believe world trade is one of the strongest agencies to work out improved international standards and higher respect for the mutual ideas of all countries and peoples.

IT'S AN AIR WORLD

By L. A. GOLDSMITH
Economic Analyst, AIR TRANSPORTATION

IT certainly is an Air World, when you hear so many surprising facts—tossed off as nonchalantly as one lights a cigarette.

Gregory Shortell, young flight steward on Pan American Airways, has recently flown across the Atlantic *30 times in 45 days!* While this has established a record, it was not intentional, and was just part of the day's work. It happened that Shortell's assignment of duties worked out that way; so that on the average he made a round trip to Europe every three days!

Look at the "Commuter"—New Style—Flies Across the Atlantic Thirty Times in Forty Five Days

Of course, there are even more spectacular records for individual flights, such as when Captain Joseph Hart, also of Pan American, recently made an Atlantic round trip in 23 hours and 59 minutes *flight time,* making it a minute under a full day.

For supercolossal timing, an amazing record was hung up when a *Liberator* bomber crossed from Newfoundland to Great Britain last year in six hours and 40 minutes. Then, a couple of months ago, even this was surpassed by a similar crossing of six hours and 12 minutes.

As a sample of what may be expected in the merging of space and time when the war is over, here are a few official estimates of flight distances, over the shortest routes from Washington, D. C.

To London or Paris, less than 10 or 11 hours—to the Pacific Coast eight or nine hours—Panama City less than eight hours. While for really *long* flights it will be 16 hours to Moscow; Rio de Janeiro, or Istanbul—18 hours to Cairo or Buenos Aires—26 hours to Chungking or Capetown.

The implications of this speed in travel and transport sound almost too fantastic to be credible. But it will soon be quite matter-of-fact for John Doe to call up the little woman some Monday afternoon, and ask her to pack a bag for him, since he is dashing off to London on the midnight plane. He will be staying just a day in London and will leave there Tuesday evening and be back home Wednesday. It may sound unreal, but it really isn't. It's just the plain facts of life in this Air World of today.

THE Egyptian Delegates to the recent United Nations Food Conference at Hot Springs, Va., came by bomber, or else they would not have found it practicable to come at all. It was a slow trip as they did not fly at night and there were many stopovers, at Khartoum, Lagos, Natal (Brazil), Georgetown (British Guiana), and then on to Miami and finally Washington.

They Came By Bomber From Egypt To Attend the Food Conference

That trip by bomber made a great impression on His Excellency Hussein Fahmy Bey, Undersecretary of State for Supplies in the Egyptian Government, who was one of the chief Egyptian delegates to the conference. He told me that this trip brought home to him the tremendous advantage of air transportation, and what it would mean to his country, not only now, during the war, but afterward in the postwar period. For instance, he said, "In Egypt, we need prompt shipment of many basic supplies, such as chemicals, and medical materials—as well as dehydrated foods, selected seeds, and tons of fertilizers, so that we can take advantage of several crop plantings a year."

Fahmy Bey also emphasized Egypt's need for lubricating oils and small repair parts for machinery used in the manufacturing of textiles and other articles which it is supplying to United Nations armies stationed in Egypt and neighboring countries. If these can be shipped

by air, the resulting benefits will be enormous, according to this delegate from Egypt. Doing it by air will save months of time, and conserve space in surface vessels for men, munitions and materials en route to the fighting fronts.

Said Fahmy Bey: "If we can continue to have enlarged air transport facilities when peace comes, it means that the reconstruction of war areas and rehabilitation of peoples exhausted by war will be speeded. The use of Air Cargo facilities will hasten the restoration of health and strength for many hundreds of thousands of human beings. It will give them a better opportunity to regain more rapidly their normal foothold on life."

Airplane Steps in—and Glove Production Steps Up

THIS story "fits like a glove" into airplane schedules from Puerto Rico to Miami. Planes are flown to Puerto Rico with essential materials urgently required by both military services and civilians. On the return trip from Puerto Rico, the planes are permitted to load non-essential products. Otherwise they might come up half empty.

A glove manufacturer saw an opportunity to speed production at his plant in Gloversville, N. Y. He manufactures high-priced gloves for both military and civilian use. Glove material is cut in the factory at Gloversville, then sent to Puerto Rico by ship to be hand-sewn there. The gloves are then flown to Miami (in six hours) and shipped from Miami to Gloversville by Railway Express. The gloves reach the factory from Puerto Rico in about one and a half days. If forwarded by ocean freight from Puerto Rico, these shipments would take anywhere from three to five weeks, due to unavoidable delays caused by war conditions.

This manufacturer told me that specifications for his gloves called for hand-sewing and that it was necessary to have the work done in Puerto Rico where there is available an abundance of skilled handicraft workers. Puerto Rican workers perform this task at a much lower cost than possible in this country. There is practically no skilled labor of this type in the U. S.

He further emphasized that the financial saving was a great factor to be considered as well as that of time in transit. His insurance on the air and railway express shipments was very much lower than marine insurance would be today. This method of air transportation permits a much quicker turnover of capital due to time saved in transit. Beside the saving of time and money, taking advantage of air shipment permits the speeding of much needed glove production for the armed services.

And Now Let's Look At Airplanes & Automobiles

OFFICIAL estimates for our airplane production in 1943 stagger the imagination. This will reach, according to Government officials, the colossal value of $20,100,000,000 (twenty billion, one hundred million dollars). This is a fourth of our entire war budget, and almost a seventh of our estimated national income for this calendar year.

Contrast these figures with the automobile industry—which at its peak in 1941 reached a value of only $3,700,000,000 (three billion, seven hundred million dollars).

These comparative figures are especially interesting when you recall that in 1938, five short years ago, the total production of the aviation industry—transport and combat planes together—amounted in value to a mere bagatelle of $280,000,000. But it jumped in 1942 to $6,400,000,000, at that time second only to the steel industry, and now look at it—*twenty billion, one hundred million dollars* in 1943.

Enough said—to show the literal heights to which airplane production has climbed. When you stop to think that, before Pearl Harbor, only 434 planes were being operated commercially within and beyond the continental limits of the U. S., it certainly does sound incredible. But a glimpse into the future assures us to the contrary.

The Civil Aeronautics Administration believes that before 1950 the U. S. may well have *half a million* private, commercial and military planes in service. They further expect that by 1946 the transportation of air flight passengers in the U. S. will reach 20,000,000 a year.

SERVICES FOR THE AIR SHIPPER

Air Cargo Insurance Brokers

Parker & Co. (see adv.), 60 E. 42nd St., New York; 1616 Walnut St., Philadelphia, Penna.

Riker & Lynch Inc (see adv.), 90 John St., New York; Dominion Square Bldg., Montreal, Canada.

Air Cargo Insurance Underwriters

Marine Office of America (see adv.), 116 John St., New York.

Wm. H. McGee & Co. Inc. (see adv), 111 John St., New York.

Air Express

Railway Express Agency, Air Express Division (see adv.), 230 Park Ave., New York City.

Airlines—International

American Airlines (see adv.), 100 East 42nd St., New York City.

American Export Airlines, 25 Broadway, New York.

Expreso Aero Inter-Americano S. A., 33 N.W., First Ave., Miami, Fla.

British West Indian Airways (BWIA), Rockefeller Plaza, New York.

Compania Nacional Cubana de Aviacion S. A. Prado 252, altos, Havana, Cuba.

KLM Royal Dutch Air Lines (see adv.), 521 Fifth Ave., New York.

Pan American Airways System (see adv.), Chrysler Bldg., New York.

Pan American-Grace Airways (see adv.), 135 E. 42nd St., New York.

Trans-Canada Air Lines, 673 Fifth Ave., New York, N. Y.

Transportes Aereos Centro - Americanos (TACA), 9 Rockefeller Plaza, New York.

Airlines—Domestic

All American Aviation Inc., 200 W. 9th St., Wilmington, Del.

American Airlines (see adv.), 100 E. 42nd St., New York, N. Y.

Braniff Airways Inc., Love Field, Dallas, Tex.

Chicago & Southern Airlines, Municipal Airport, Memphis, Tenn.

Colonial Airlines Inc., 630 Fifth Ave., New York City.

Continental Air Lines, Municipal Airport, Denver, Colo.

Delta Air Corp., Municipal Airport, Atlanta, Ga.

Eastern Air Lines Inc., 10 Rockefeller Plaza, New York.

Inland Air Lines, Inc., Casper, Wyo.

Mid-Continent Airlines Inc., Municipal Airport, Kansas City, Mo.

National Airlines Inc., Municipal Airport, Jacksonville, Fla.

Northeast Airlines Inc., Commonwealth Airport, East Boston, Mass.

Northwest Airlines, Inc., 1885 University Ave., St. Paul, Minn.

Pennsylvania-Central Airlines Corp., National Airport, Washington, D. C.

Transcontinental & Western Air Inc., 101 W. 11th St., Kansas City, Mo.

United Air Lines Transport Corp., 5959 S. Cicero Ave., Chicago.

Western Airlines Inc., Lockheed Air Terminal, Burbank, Calif.

Air Shipping

Air Express International Agency Inc (see adv.), 40 Exchange P., New York; 410 N.E. 2nd Ave., Miami.

Custom House Brokers

Barr Shipping Co. (see adv.), 25 Broadway, New York.

Air Express International Agency Inc. (see adv.), 40 Exchange Pl., New York; 410 N.E. 2nd Ave., Miami.

Railway Sxpress Agency (see adv.), 230 Park Ave., New York.

Foreign Freight Forwarders

Barr Shipping Co. (see adv.), 25 Broadway, New York.

Air Express International Agency Inc. (see adv.), 40 Exchange Pl., New York; 410 N.E. 2nd Ave., Miami.

Railway Express Agency (se adv.), 230 Park Ave., New York.

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Barr Shipping Co. (see adv.), 25 Broadway, New York.

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JOHN F. BUDD
Editor and Publisher

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Big Business Fools Its Foes

You don't hear it shouted nearly so often, now that U. S. industry is so obviously doing so vast a job—and so indispensable a job—toward victory.

But far too often still does one hear the yammering of those who would imply that all so-called Big Business is greedy and grasping to the point of never giving competition even half a chance, except at the point of a Government citation or prosecution.

In the air transport field, as well as in others, the shouts have been heard often.

There are answers aplenty, as there have been for a long time. But to our way of thinking, few are as eloquent as the attitude expressed by Pan American Airways' JUAN TERRY TRIPPE when he openly advocated major aid to the British in establishing transoceanic air transport after the war. That is why, though we know most of our readers have read the highlights of Mr. TRIPPE'S speech in the newspapers, we are reprinting it virtually in full in this issue *(page 25)*.

The general press has already showered on him a deserved host of commendation. But the point is not what it may at first seem. At first glance, Mr. TRIPPE has seemed overflowing with unselfishness and generosity. There is much truth in that view, of course.

The larger and deeper truth, however, is not that he has been so open-handedly unselfish—but rather that he has been so intelligently selfish in the best interests of his company and his nation.

Today, in the air at least (and we aren't going beyond our field in this judgment), the most intelligent self-interest is served by promoting the broadest cooperation.

We have a feeling that JUAN TRIPPE has started something that will have a lot of imitators. The more there are, we are sure, the better he will like it. And the better it will be for the shipper, the air transport industry, and for the future peace and progress of the whole world.

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Leathercraft Furniture Mfg. Co., 3045 E. 11th St., Los Angeles.

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Barber-Greene Co., Aurora, Ill.

Elevators (Portable Hydraulic)
Federal Aircraft Works, 3456 Mississippi Drive, Minneapolis.

Equipment
Automatic Transportation Co., 101 W. 87th St., Chicago.
Whiting Corp., Harvey, Ill.

Loading Stands—Passenger
Thomas L. Siebenthaler Mfg. Co., 410 W. Sixth St., Kansas City.

Mailroom Equipment
National Postal Meter Co., 14 Franklin St., Rochester, N. Y.

Platforms—Service
Security Fence Co., Sommerville, Mass.

Platforms—Skid
Standard Pressed Steel Co., Jenkintown, Pa.

Scales
Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago.

Scales—Mail and Parcel
Toledo Scale Co., Telegraph Rd., Toledo, Ohio.

Tractors
Allis-Chalmers Mfg. Co., Milwaukee.
Automatic Transportation Co., 101 W. 87th St., Chicago.
Baker Industrial Truck Division of Baker-Raulang Co., 2168 W. 25th St., Cleveland.
J. L. Case Co., 700 State St., Racine, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Clark Tructrator Division of Clark Equipment Co., Battle Creek, Michigan.
Cleveland Tractor Co., 19300 Euclid Ave., Cleveland.
Cunningham-Hall Aircraft Corp., 13 Canal St., Rochester, N. Y.
Deere & Co., Moline, Ill.
Elwell-Parker Electric Co., 4170 St. Clair Ave., Cleveland.
Four-Wheel Drive Auto Co., Clintonville, Wis.
"H H" Manufacturers, 1140 Broadway, Long Beach, Calif.
International Harvester Co., 180 N. Michigan Ave., Chicago.
Massey Harris Co., Racine, Wis.
Mercury Manufacturing Co., 14044 S. Halstead St., Chicago.
Oliver Farm Equipment Co., 400 W. Madison St., Chicago.
Toro Manufacturing Corp., 3042 Snelling Ave., Minneapolis.
Yale & Towne Mfg. Co. (Philadelphia Division), 4530 Tacony St., Frankford, Philadelphia, Pa.

Trailers
American Bantam Car Co., Butler, Pa.
Butler Mfg. Co., 1233 Eastern Ave., Kansas City.
Clark Tructratcor Division of Clark Equipment Co., Battle Creek. Mich.
C. H. & E. Manufacturing Co., 3849 N. Palmer St., Milwaukee.
Mercury Mfg. Co., 14044 S. Halstead St., Chicago.
Schweizer Aircraft Corp., Prescott Ave., Heights Station, Elmira, N. Y.
Yale & Towne Mfg. Co., Chrysler Bldg., New York.

Trucks
Baker Industrial Truck Div. of Baker-Raulang Co., 2168 W. 25th St., Cleveland.
Clark Tructratcor Division of Clark Equipment Co., Battle Creek, Mich.
Elwell Parker Electric Co., The, 4170 St. Clair Ave., Cleveland.
"H H" Manufacturers, 1140 Broadway, Long Beach, Calif.
Jarvis & Jarvis Inc., Palmer, Mass.
Lift Truck Division, Waukesha, Wis.
Karl Ort, W. Poplar St., York, Pa.
Standard Pressed Steel Co., Jenkintown, Pa.
Towmotor Co., 1226 E. 152nd St., Cleveland.
Yale & Towne Mfg. Co., Chrysler Bldg., New York.

Trucks—Baggage
Aeronautical Trading Company, Floyd Bennett Airport, Brooklyn, New York.
Chas. W. Carll's Sons, Trenton, N. J.
Colson Corp., Elyria, Ohio.
Elwell-Parker Electric Co., 4170 St. Clair Ave., Cleveland.
Lewis-Shepard Sales Corp., Watertown, Mass.
Thomas L. Siebenthaler Mfg. Co., 410 W. Sixth St., Kansas City.

Trucks, Electric (Platform Type)
Rocky Mountain Steel Products Inc., 1346 Wall St., Los Angeles, Calif.



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